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IRRIGATION DEPARTMENT, PUNJAB.

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ADMINISTRATION REPORT

FOR

1916-17.

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# ADMINISTRATION REPORT FOR THE YEAR 1916-17.

## Part I

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Western Jumna Canal	Between pages	6-7 of the Report
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## PUNJAB CANALS.

YEAR.	AREA IRRIGATED, IN ACRES.		
	Punjab Canals, Major Works.	Punjab Canals, Minor Works.	Total.
1887-1888	1,422,775	918,328	2,341,103
1888-1889	1,749,957	997,428	2,747,385
1889-1890	1,868,456	994,710	2,858,166
1890-1891	2,083,500	982,956	3,010,456
1891-1892	2,144,892	1,049,154	3,193,546
1892-1893	1,847,882	1,079,709	2,927,591
1893-1894	1,908,854	958,654	2,862,318
1894-1895	1,855,858	1,063,296	2,919,154
1895-1896	2,852,883	989,200	3,791,583
1896-1897	3,649,803	980,110	4,609,413
1897-1898	4,059,289	1,158,860	5,211,649
1898-1899	3,872,501	981,264	4,856,765
1899-1900	4,384,972	859,522	5,244,491
1900-1901	4,642,852	1,857,899	6,000,551
1901-1902	4,491,888	981,521	5,473,359
1902-1903	4,864,974	815,600	5,679,964
1903-1904	5,610,787	770,547	6,390,884
1904-1905	5,689,132	617,252	6,306,884
1905-1906	6,168,360	751,067	6,914,436
1906-1907	5,902,995	808,317	6,700,812
1907-1908	5,515,886	524,558	6,039,944
1908-1909	6,385,050	968,096	7,353,146
1909-1910	6,117,004	969,607	7,086,611
1910-1911	6,970,757	956,285	7,227,042
1911-1912	7,469,645	862,247	8,331,892
1912-1913	7,461,251	968,180	8,429,381
1913-1914	7,351,721	971,748	8,328,464
1914-1915	7,883,628	1,079,413	8,963,041
1915-1916	7,982,582	902,279	8,884,811
1916-1917	8,498,867	1,085,957	9,579,824

From 1894-1895 to 1905-1906 the total areas shown are *net*, thereafter the areas are *gross*.

The areas include the Swat River Canal up to 1900-1901; after which date the canal was transferred to the North-West Frontier Province.

DIAGRAM  
SHOWING TOTAL AREA IRRIGATED  
BY  
PUNJAB CANALS—MAJOR AND MINOR WORKS.

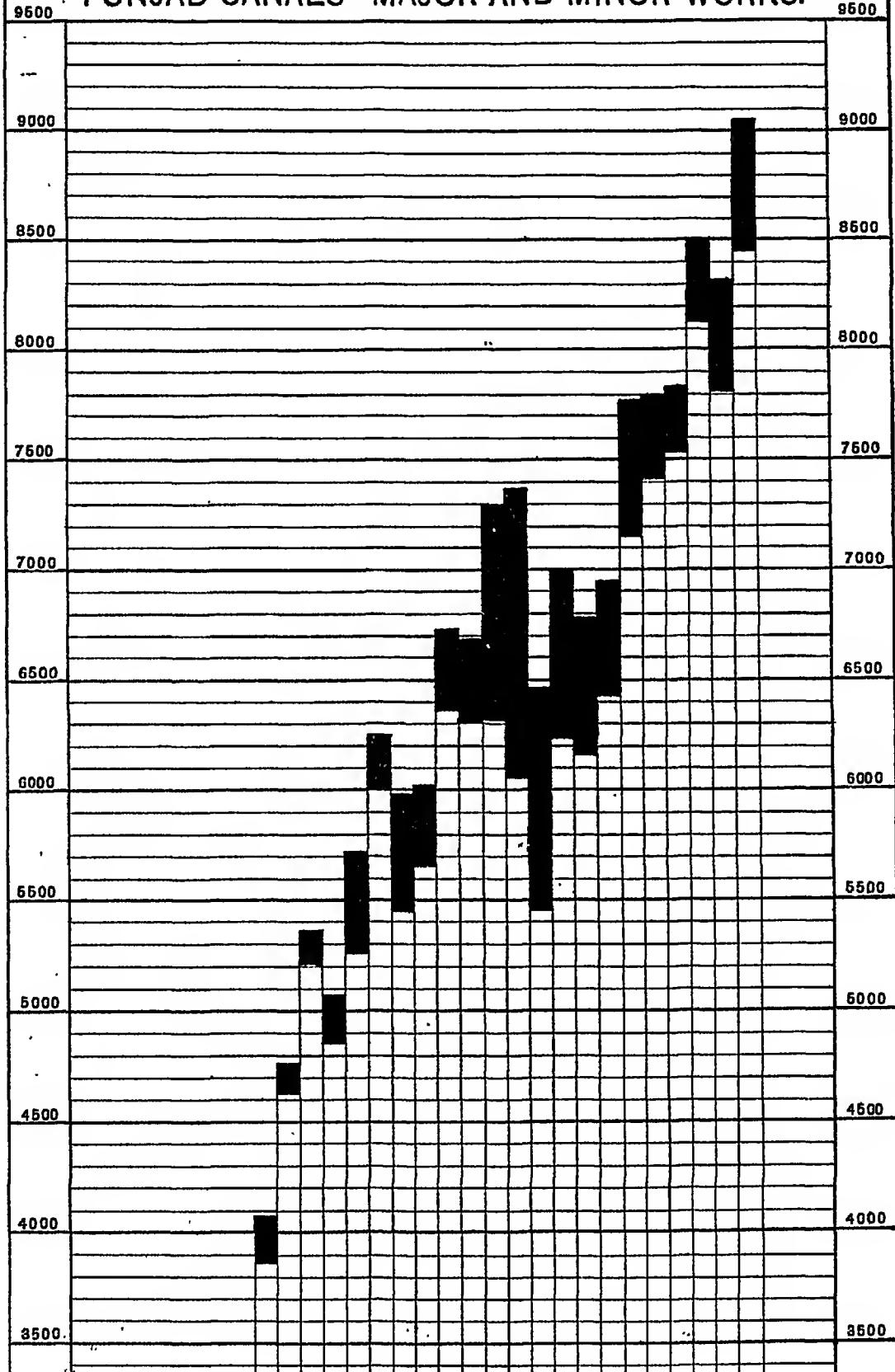
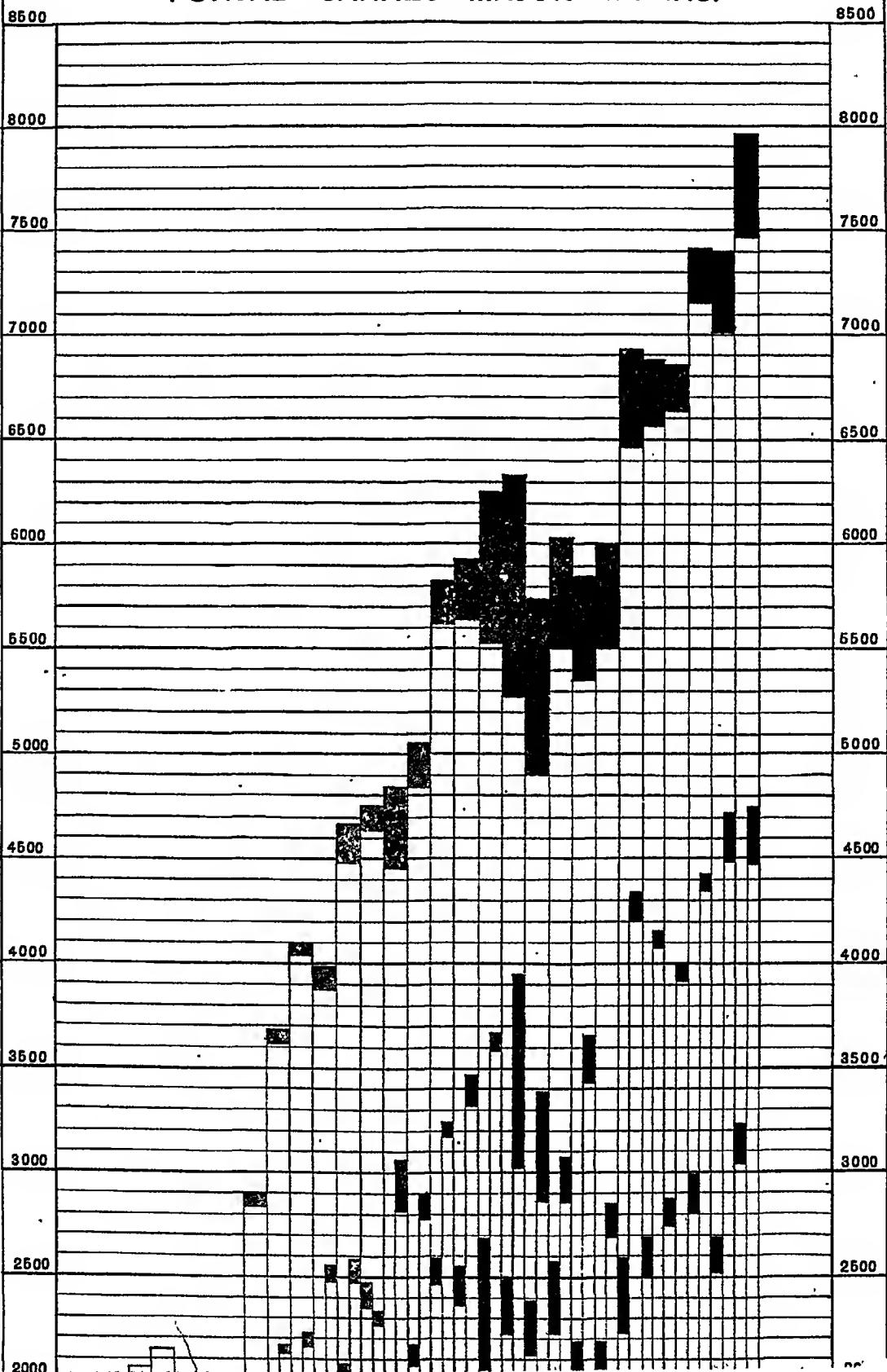


DIAGRAM  
SHOWING TOTAL AREA IRRIGATED  
BY  
PUNJAB CANALS—MAJOR WORKS.



## PUNJAB CANALS, MAJOR WORKS.

YEAR.	AREA IRRIGATED, IN ACRES.			REMARKS.
	Kharif.	Rabi.	Total.	
1887-1888	645,816	776,929	1,422,775	Lower Chenab Canal opened.
1888-1889	715,682	1,084,925	1,749,607	
1889-1890	661,677	1,201,779	1,863,456	
1890-1891	757,535	1,275,965	2,033,500	
1891-1892	697,454	1,416,988	2,114,432	Sirsa Branch of Western Jumna Canal opened.
1892-1893	823,235	1,024,647	1,847,882	Decrease due entirely to the favourable winter rains of 1892-93 which greatly contracted the irrigated rabi area.
1893-1894	711,001	1,192,653	1,903,654	Decrease as compared with 1891-92, due to general rainfall in rabi 1893-94, and would have been greater but for now irrigation on Chenab Canal.
1894-1895	703,930	1,151,925	1,855,858	Decrease due to very favourable rainfall during rabi, particularly in Sirhind and Western Jumna Canal tracts.
1895-1896	935,827	1,300,556	2,852,383	Increase chiefly due to partial failure of rains of 1895 and subsequent drought.
1896-1897	1,531,969	2,114,334	3,649,303	Increase due to drought.
1897-1898	1,777,563	2,275,724	4,053,280	Increase due to favourable year for irrigation and extensions.
1898-1899	1,413,822	2,455,673	3,872,601	Decrease in kharif due to favourable state of rivers and scanty rainfall.
1899-1900	1,888,398	2,496,574	4,384,972	
1900-1901	2,354,174	2,938,678	4,612,852	
1901-1902	1,686,043	2,805,795	4,491,838	Lower Jhelum Canal opened.
1902-1903	2,071,363	2,792,911	4,864,274	The Upper Sutlej Irrigation Canals were transferred from head "Minor Works" to "Major Works" from 1st April 1902.
1903-1904	2,430,789	3,160,013	5,610,787	The Indus Irrigation Canals were transferred from head "Minor Works" to "Major Works" from 1st April 1903.
1904-1905	2,051,786	3,307,346	5,659,132	
1905-1906	2,294,460	3,868,911	6,163,371	Decrease in kharif due to cotton failure.
1906-1907	2,435,219	3,467,776	5,902,995	
1907-1908	2,226,291	3,289,095	5,515,386	Decrease due to abnormally low supplies in the rivers.
1908-1909	2,695,518	3,689,532	6,385,050	
1909-1910	2,285,870	3,831,134	6,117,004	
1910-1911	2,251,833	4,016,421	6,270,757	
1911-1912	2,755,324	4,714,821	7,469,645	
1912-1913	2,929,309	4,531,912	7,461,221	Upper Chenab Canal opened
1913-1914	3,069,950	4,281,771	7,351,721	Lower Bari Doab Canal opened.
1914-1915	3,184,751	4,598,877	7,883,628	
1915-1916	2,886,578	5,093,954	7,980,532	Upper Jhelum Canal opened. Decrease in kharif due to drought and abnormally low supplies in the rivers.
1916-1917	3,441,467	5,052,400	8,493,867	

The areas include the Swat River Canal up to 1900-1901, after which date the canal was transferred to the North-West Frontier Province.

From 1894-95 to 1905-1906 the total areas shown are net; thereafter the areas are gross.

## PUNJAB CANALS, MINOR WORKS.

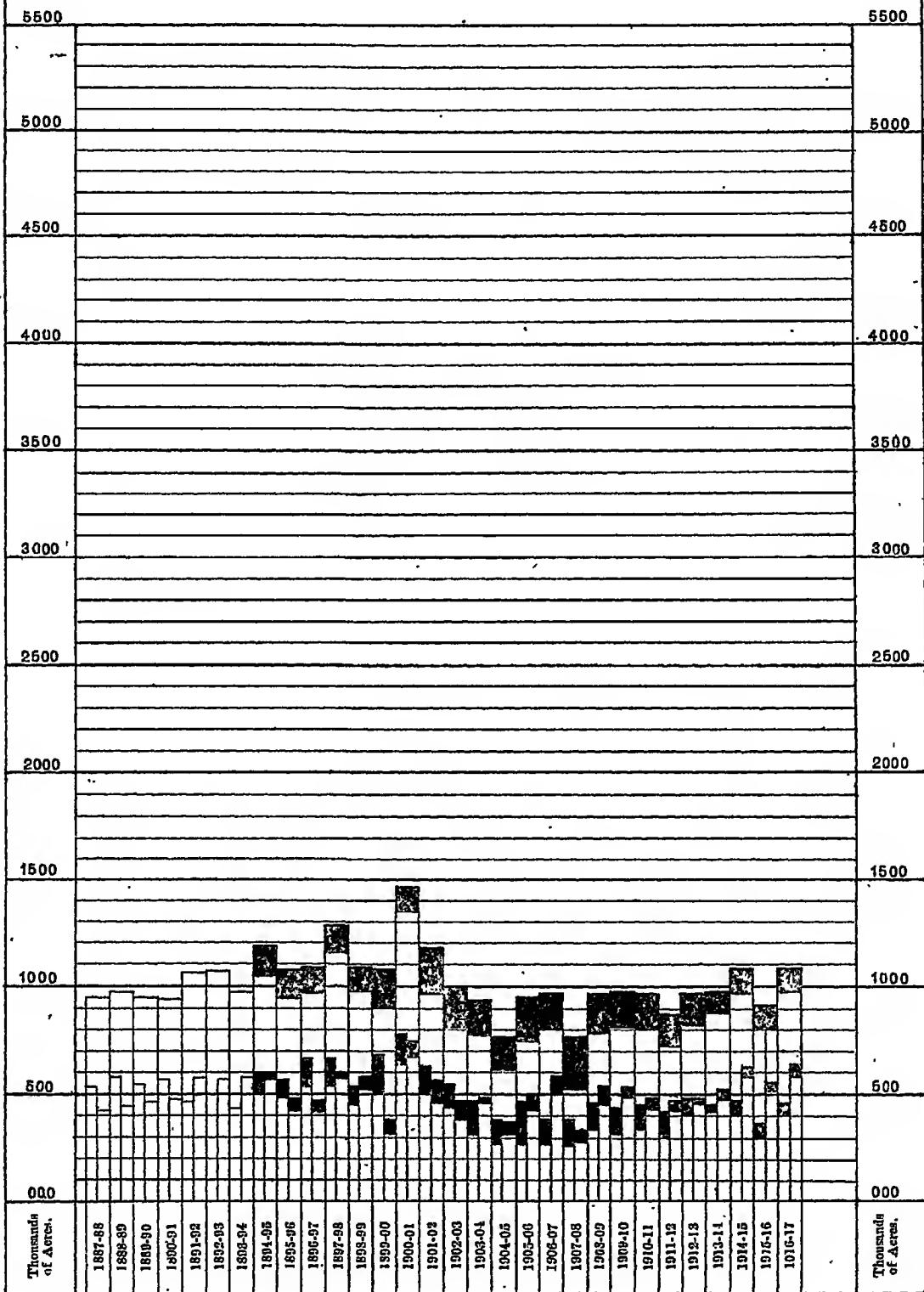
YEAR.	AREA IRRIGATED, IN ACRES.			REMARKS.
	Kharif.	Rabi.	Total.	
1887-1888	205,095	413,233	918,328	
1888-1889	571,558	425,870	997,428	
1889-1890	542,112	452,598	994,710	
1890-1891	520,408	462,548	982,956	
1891-1892	452,490	590,664	1,049,154	
1892-1893	491,151	558,558	1,079,709	Rivers rose late, but subsequent supplies were good, and rainfall was favourable, the result being the largest area on record up to date.
1893-1894	469,917	548,747	958,664	Decrease due to the destruction of kharif crops by high floods and to less favourable working of the canals.
1894-1895	500,218	563,048	1,063,296	
1895-1896	477,957	461,243	939,200	
1896-1897	533,745	426,365	960,110	
1897-1898	565,562	592,778	1,158,360	
1898-1899	463,402	530,862	994,264	
1899-1900	520,803	338,620	859,522	
1900-1901	669,563	688,186	1,357,699	
1901-1902	508,416	573,105	981,521	
1902-1903	424,819	390,871	815,690	Decrease due chiefly to the transfer of the Upper Sutlej Irrigation Canals from head "Minor Works" to "Major Works" from 1st April 1902.
1903-1904	316,418	463,129	779,547	Decrease due chiefly to the transfer of the Indus Irrigation Canals from head "Minor Works" to "Major Works" from 1st April 1903.
1904-1905	296,636	320,616	617,252	
1905-1906	288,279	452,788	751,067	
1906-1907	293,898	507,419	803,317	
1907-1908	259,074	266,484	525,558	
1908-1909	442,058	526,008	968,096	
1909-1910	426,020	513,587	968,607	
1910-1911	159,270	497,015	956,285	
1911-1912	402,641	459,606	862,247	
1912-1913	467,057	500,173	968,130	
1913-1914	464,872	506,871	971,743	
1914-1915	466,107	613,306	1,079,413	
1915-1916	362,607	539,672	902,279	Decrease due to drought and abnormally low supplies in the rivers.
1916-1917	452,348	633,609	1,085,957	

The above includes the areas irrigated by the Sambhar Provincial Canals from 1890-1891 inclusively.

The above includes the areas irrigated on Ghaggar Canals, British and Bikaner State.

From the year 1891-1892 to 1905-1906 the areas shown are net; thereafter the areas are gross.

**DIAGRAM  
SHOWING TOTAL AREA IRRIGATED  
BY  
PUNJAB CANALS—MINOR WORKS.**



#### REFERENCES.

The first sub-division of each annual column denotes the "Kharif" area, coloured red, and the second the "Rabi" area, coloured blue. The black portions represent area remitted; the drab, net areas, from the year 1894-95.



## PUNJAB CANALS, MAJOR WORKS.

YEAR.	Capital outlay, Direct and Indirect, to end of year.	Interest charges to end of year.	Net revenue to end of year.	Accumula- ted profits to end of year (Column 4— column 3).	FOR THE YEARS.			
					Gross revenue.	Working expenses.	Net revenue.	Percentage on capital.
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1887-1888	... 5,76,25,828	8,18,46,764	6,00,35,681	1,90,69,867	40,05,023	17,01,248	23,04,675	3.99
1888-1889	... 6,80,49,400	8,40,74,458	5,83,37,688	1,02,63,180	43,64,994	19,72,987	23,92,007	4.06
1889-1890	... 6,09,98,478	3,68,40,803	5,61,80,320	1,08,80,512	40,66,797	21,14,116	23,52,682	4.74
1890-1891	... 6,21,71,861	3,86,93,767	5,98,37,074	2,11,43,307	58,30,440	21,73,686	30,56,751	6.85
1891-1892	... 6,70,91,028	4,11,74,023	6,83,26,123	2,24,61,602	60,10,960	22,51,038	37,89,052	5.05
1892-1893	... 6,97,52,824	4,37,93,007	6,59,83,641	2,42,54,547	68,08,140	24,51,681	43,57,518	6.24
1893-1894	... 7,34,88,876	4,65,46,772	7,08,89,491	4,13,40,519	53,53,97	21,45,060	30,05,847	8.95
1894-1895	... 7,64,93,573	4,94,28,432	7,42,01,493	2,47,75,651	69,45,551	26,50,549	33,15,002	4.83
1895-1896	... 8,02,57,057	6,24,41,565	7,87,76,591	2,03,35,620	70,08,254	28,40,474	42,57,780	5.31
1896-1897	... 8,41,00,266	6,50,01,216	8,06,31,083	3,10,02,817	1,08,44,418	30,87,005	78,57,443	9.34
1897-1898	... 8,70,10,606	6,89,92,103	9,66,30,223	3,87,44,003	1,21,89,419	31,80,227	00,02,102	10.85
1898-1899	... 9,92,16,631	6,23,82,641	10,41,91,814	4,22,09,178	1,24,07,003	35,61,505	63,55,583	0.93
1899-1900	... 9,03,47,216	6,57,40,457	11,37,77,761	4,80,29,274	1,84,14,061	41,23,714	62,85,914	10.21
1900-1901	... 9,29,76,077	6,92,70,820	12,40,93,246	5,49,21,857	1,46,16,136	49,01,661	1,03,14,485	11.20
1901-1902*	... 8,04,41,603	6,93,30,662	13,15,03,916	6,14,78,581	1,49,36,193	43,28,919	1,03,08,279	11.52
1902-1903	... 10,91,61,095	7,53,36,689	14,46,26,777	6,01,69,928	1,68,14,691	48,22,673	1,17,91,921	11.39
1903-1904	... 10,60,07,947	8,03,36,874	15,82,78,899	7,79,42,525	1,86,79,691	67,18,071	1,28,66,020	12.02
1904-1905	... 10,57,49,346	8,44,56,907	17,16,51,245	8,71,04,383	1,96,10,593	62,38,837	1,33,72,346	12.29
1905-1906	... 11,01,51,710	8,86,86,602	18,87,47,593	9,51,11,106	1,93,86,668	66,90,266	1,17,46,803	10.66
1906-1907	... 11,11,18,550	8,23,04,017	19,79,51,811	10,60,47,764	2,21,78,797	65,78,897	1,51,97,700	13.63
1907-1908	... 11,23,53,171	9,69,91,870	21,10,52,103	11,50,70,283	2,02,78,690	71,79,407	1,31,00,292	11.64
1908-1909	... 11,28,02,326	9,96,57,325	22,48,50,491	12,62,23,070	2,11,00,012	72,71,714	1,38,23,398	12.26
1909-1910	... 11,33,18,773	10,83,10,741	23,93,61,134	13,60,41,393	2,23,80,978	70,18,246	1,44,80,733	12.78
1910-1911	... 11,43,81,721	10,70,28,693	25,49,76,785	14,78,47,602	2,31,16,492	78,02,291	1,56,14,651	18.86
1911-1912	... 11,02,22,814	11,03,11,160	27,37,29,768	16,39,16,690	2,71,10,441	83,56,458	1,87,53,068	16.18
1912-1913	... 14,62,99,761	11,66,74,357	29,78,41,160	17,91,66,812	3,27,93,930	86,61,920	2,41,11,401	16.48
1913-1914	... 10,77,57,910	12,53,50,785	32,37,09,670	19,24,18,686	3,47,39,617	88,11,016	2,50,26,601	15.46
1914-1915	... 17,17,13,716	13,11,04,094	34,00,07,666	21,70,01,592	3,46,02,415	93,21,419	2,52,37,096	14.70
1915-1916	... 21,60,61,484	14,40,01,281	37,26,05,954	22,80,04,073	3,45,59,804	1,00,81,516	2,36,58,288	10.90
1916-1917	... 22,06,16,193	16,10,06,138	40,13,27,803	25,02,02,267	3,98,31,912	1,00,70,471	2,86,61,411	12.99

\* Excludes the figures relating to the Swat River Canal, which now belongs to the North-West Frontier Province. The figures up to 1900-1901 include the figures of that canal.

The gross revenue in column 6 is that actually collected during the year and differs from the revenue as assessed on the area irrigated in the year.



## PUNJAB CANALS, MAJOR WORKS.

YEAR.	Capital outlay, Direct and Indirect, to end of year.	Interest charged to end of year.	Net revenue to end of year.	Accumulated profits to end of year (column 4— column 3).	FOR THE YEAR.			
					Gross revenue.	Working expenses.	Net revenue.	Percentage on capital.
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1887-1888	... 5,78,25,823	8,18,40,764	5,09,35,681	1,90,88,897	40,05,023	17,01,348	23,04,675	3'99
1888-1889	... 6,80,43,409	8,40,74,455	5,83,17,028	1,92,63,180	49,64,004	19,72,987	28,92,007	4'08
1889-1890	... 6,00,98,478	8,88,40,808	5,61,80,320	1,98,80,512	49,05,787	21,14,115	28,52,682	4'74
1890-1891	... 6,24,71,561	8,86,93,767	5,98,37,074	2,11,43,307	58,30,440	21,75,580	30,59,754	5'85
1891-1892	... 6,70,01,026	4,11,74,523	0,86,20,120	9,24,51,603	50,40,090	22,51,038	28,79,062	5'05
1892-1893	... 6,97,92,824	4,37,98,007	0,78,88,641	2,42,84,547	68,08,140	24,51,081	43,57,518	6'24
1893-1894	... 7,34,69,870	4,05,48,772	7,08,89,491	4,43,40,719	63,50,977	24,45,060	29,05,847	3'95
1894-1895	... 7,84,95,573	4,04,20,432	7,42,04,498	2,47,75,001	60,85,551	20,50,540	38,15,002	4'83
1895-1896	... 8,02,57,007	6,24,41,505	7,87,70,591	2,68,35,020	70,08,251	28,40,474	42,57,760	5'31
1896-1897	... 8,41,00,265	6,50,01,210	8,86,34,088	2,10,82,817	1,09,44,448	30,87,005	78,57,443	9'34
1897-1898	... 8,70,10,865	6,89,93,163	0,50,80,325	3,07,44,053	1,21,38,410	31,86,227	50,02,192	10'85
1898-1899	... 8,02,18,631	6,22,52,041	10,44,91,814	4,22,09,170	1,24,07,093	35,51,505	89,55,568	9'99
1899-1900	... 9,09,47,219	6,67,40,467	11,37,77,761	4,80,28,274	1,84,14,801	41,28,714	82,86,914	10'21
1900-1901	... 9,23,55,077	9,92,70,850	12,40,93,240	5,48,21,887	1,48,10,130	43,01,651	1,08,14,485	11'20
1901-1902*	... 8,04,41,638	0,99,30,562	13,15,08,018	0,16,78,304	1,10,35,198	48,26,910	1,08,08,270	11'62
1902-1903	... 10,91,01,088	7,53,30,810	14,45,26,777	6,01,89,028	1,06,14,594	48,22,073	1,17,91,921	11'39
1903-1904	... 10,69,07,047	6,08,36,374	15,82,78,890	7,70,42,525	1,85,78,691	57,18,071	1,28,55,020	12'02
1904-1905	... 10,57,88,310	8,44,50,507	17,16,51,246	8,71,94,983	1,96,10,508	62,38,247	1,33,72,945	12'29
1905-1906	... 11,01,51,710	8,96,96,602	18,87,47,788	0,51,11,103	1,83,30,508	95,90,355	1,17,48,802	10'56
1906-1907	... 11,11,10,650	0,23,04,047	19,70,51,611	10,56,47,784	2,21,75,707	69,78,807	1,51,37,700	13'68
1907-1908	... 11,28,83,171	9,59,91,870	21,10,52,103	11,50,70,288	2,02,79,690	71,79,407	1,31,00,292	11'64
1908-1909	... 11,28,02,925	9,90,57,325	22,48,80,401	12,52,23,070	2,11,00,012	72,71,714	1,38,28,293	12'20
1909-1910	... 11,33,18,773	10,33,10,741	23,93,01,131	13,60,41,393	2,23,99,978	79,10,245	1,44,80,738	12'78
1910-1911	... 11,43,81,721	10,70,28,093	25,49,76,785	14,70,47,602	2,31,16,492	78,02,291	1,59,14,051	13'66
1911-1912	... 11,62,22,814	11,08,11,109	27,37,29,768	15,20,18,690	2,71,10,441	83,56,458	1,87,53,968	18'18
1912-1913	... 14,62,99,781	11,86,74,357	29,78,41,109	17,01,60,812	3,27,93,830	80,81,020	2,41,11,401	18'48
1913-1914	... 16,77,87,610	12,53,50,786	32,37,00,670	10,84,18,886	8,47,39,517	88,11,010	2,69,29,601	15'45
1914-1915	... 17,17,13,716	13,11,06,054	34,00,07,606	21,79,01,582	8,45,62,415	93,24,449	2,52,87,995	14'70
1915-1916	... 21,69,51,484	14,40,01,381	37,20,05,954	22,88,04,073	8,45,80,804	1,69,31,616	3,36,68,298	10'90
1916-1917	... 22,00,10,193	15,10,05,128	40,13,27,395	25,02,62,267	8,98,31,912	1,69,70,471	2,86,01,441	12'99

\* Excludes the figures relating to the Tawal River Canal, which now belongs to the North-West Frontier Province. The figures up to 1909-1910 include the figures of that canal.

The gross revenue in column 6 is that actually collected during the year and differs from the revenue as assessed on the area irrigated in the year.



GOVERNMENT OF THE PUNJAB.  
PUBLIC WORKS DEPARTMENT.

Irrigation Branch.

No. 1264-R. I.

*The 20th December 1917.*

*Resolution by His Honour the Lieutenant-Governor of the Punjab and its Dependencies.*

READ —

Administration Report by the Chief Engineer, Irrigation Works, Punjab, of the Canals in the Punjab for the year 1916-17.

*Capital Outlay.*

DURING the year under report the expenditure (direct and indirect) on canals in operation classed as Productive or Major Irrigation Works, was Rs. 36,80,096 (Imperial Rs. 36,64,709 and Contribution Rs. 15,387), bringing the total outlay to date to Rs. 23,60,93,960, including Rs. 1,51,77,767 contributed by Native States.

Of the Imperial expenditure during the year the sum of Rs. 31,21,690 was expended on the construction and completion of the Triple Canal system. On the other canals the expenditure was, for reasons of financial stringency, kept very low with the exception of the Lower Chenab Canal, the total expenditure on which was Rs. 5,58,238. This was spent chiefly on the much-needed work of raising the Khanki Weir, to improve control of the river Chenab, and on the Palkhu Spur for the same purpose.

The Upper Bari Doab Canal and the Lower Jhelum Canal showed a credit balance, due to suspense transactions (stock issues to works) and receipts on Capital account, which exceeded the actual expenditure on these canals by Rs. 1,55,923 and Rs. 32,594, respectively.

On canals not classed as Productive, or Minor Works for which Capital and Revenue accounts are kept, there was no expenditure during the year. The up-to-date expenditure on these canals was, therefore, the same as in the previous year, *vis.*, Rs. 8,77,485, including Rs. 2,85,442 contributed by the Bikaner State.

*Nature of Seasons.*

3. *Kharif* 1916.—The monsoon of 1915 was exceptionally short, and the winter rains of 1915-16 failed almost completely, the drought continuing till June 1916. The result was very low rivers, short supplies in all the canals, and late opening of the Inundation Canals. Early in June the rains broke, and in July and August the rainfall was widespread and plentiful. There was a short break in September, and the monsoon of 1916 ended early in October. A marked feature of the season was that the rainfall was good—in parts excessive—in the Punjab plains, but very moderate in the Himalayas. There was some local damage to crops, due to excessive rainfall. The rivers were remarkably free from high floods, and the higher lands on the Inundation Canals suffered from lack of inundation. The shortage of supplies at sowing time caused a serious contraction in the area under cotton, while the scarcity of fodder led to a great increase in fodder crops. The outturn of food crops except rice was poor owing to excessive late rains in October, but sugar-cane and cotton, on the whole, did well.

*Rabi* 1916-17.—The excellent monsoon rainfall of 1916, and the heavy rains in the beginning of October, were most favourable for the sowing of the *Rabi*. Unfortunately, however, the winter rains again failed, the season became abnormally dry, and the rivers fell so low that the Jhelum, the Chenab and the Ravi rivers had the lowest supplies on record. The low rivers were probably a direct consequence of the light monsoon in the mid-Himalayas and the subsequent poor snowfall.

The demand for water was very keen, and though it could not be fully met, the small supplies available were distributed to the best effect and the canals again saved the province from very severe scarcity. The general effect on the wheat crop of deficient rain and restricted canal supplies was that, though the outturn of grain was nearly normal, the outturn of 'bhusa' was short.

The grain was of excellent quality, but was much damaged by the untimely rain and hail which fell in April and May, when the grain was ripening or being harvested, necessitating the grant of special remissions under Rule 20 (III) of the Rules under the Canal Act, VIII of 1878.

*Area irrigated, etc.*

4. The areas irrigated and matured by works of all kinds compare as follows with the corresponding figures for the two previous triennia and for the year 1915-16 :—

Particulars.	AVERAGE OF THE 3 YEARS ENDING		During 1915-16.	During 1916-17.
	1912-13.	1915-16.		
	Acres.	Acres.	Acres.	Acres.
<i>Imperial and Provincial.</i>				
Area irrigated ... ... ...	7,510,770	8,146,997	8,237,866	8,954,131
Area matured ... ... ...	6,932,571	7,779,810	7,805,703	8,351,660
<i>Native States.</i>				
Area irrigated ... ... ...	518,950	578,775	646,925	625,693
Area matured ... ... ...	512,958	572,710	613,294	621,751

Under Imperial and Provincial the area irrigated and area matured exceeded by 716,245 acres and 548,937 acres, respectively, the figures of 1915-16; and by 807,134 acres and 574,820 acres, the average figures of the previous triennium. The increase was due mainly to the expansion of irrigation on the Triple Canal system, and to the very good monsoon rainfall which helped also in increasing the area under irrigation on other canals. Of the Triple Canals the Upper Chenab increased its irrigation from 325,000 acres to 437,000 acres, the Lower Bari Doab Canal from 288,000 to 515,000 acres. These figures indicate very satisfactory progress, but the Upper Jhelum which ran for the first time irrigated only 118,000 acres.

Excluding the Triple Canal system, the total increase on all other canals was 254,683 acres and 271,602 acres, respectively, over the figures of the areas irrigated and matured in the previous year: a very satisfactory result in a year during the greater part of which the supplies were unusually short. The success that attended the operations of the Inundation Canals except the Indus system is a matter of special congratulation.

The reason for the shortage on the Triple Canal system, as a whole, viz., 1,070,018 acres against a forecast of 1,543,367 acres, was that the Upper

Jhelum Canal, on which the working of the Upper Chenab Canal and the Lower Bari Doab Canal is dependent, was opened a year late, and was not able, owing to the newness of its banks, to carry the supply required. The supply in this new canal (Upper Jhelum Canal) is being raised steadily and cautiously, and it is hoped that the forecast will be realized within a few years. The Lower Jhelum and Lower Chenab reports show separately areas irrigated in old and new villages, and the Lieutenant-Governor considers that similar information should be given for all the canals irrigating newly colonised areas.

5. The area on which irrigation charges were remitted was 603,413 acres against 435,824 acres in the previous year. But from these figures must be deducted 175,718 acres and 40,987 acres, respectively, granted remissions under Tenancy rules mostly on the Lower Bari Doab Canal, not for failure of crops, but as part of the terms of colonization. Thus the area of crops that failed amounted to only 428,910 acres, as compared with 395,526 acres in the previous year. The proportion of the area that failed to the area irrigated was about the same in both years, viz., 4.5 per cent. About fifty per cent. of the failure was due to flooding by rain, short supplies in the rivers and hail. Other kinds of remissions were normal.

Considering the unusually low supplies in the river and the failure of the winter rains the results have been much better than might have been anticipated.

#### *Financial results.*

6. The financial results of the year under review are based on the revenue assessed and collected on the areas irrigated in Rabi 1915-16 and Kharif 1916. The gross receipts from works of all kinds compare as follows with the figures for the year 1915-16 and the two previous triennial periods ending 1912-13 and 1915-16:—

Particulars,	AVERAGE OF THE THREE YEARS ENDING		During 1915-16.	During 1916-17.
	1912-13.	1915-16.		
	Rs.	Rs.	Rs.	Rs.
<i>Imperial and Provincial.</i>				
Major Works ... ... ...	2,77,78,571	3,46,30,069	3,45,80,604	3,90,31,912
Minor Works ... ... ...	17,11,218	19,10,180	18,86,557	20,09,978
Total	2,95,14,789	3,05,40,769	3,64,76,861	4,10,41,890
<i>Native States.</i>				
Major Works ... ... ...	20,85,791	24,47,259	31,88,303	27,96,001
Minor Works ... ... ...	23	2	1	...
Total	20,85,814	24,47,261	31,88,304	27,96,004

The gross receipts under Imperial and Provincial are the highest on record, being about 50 lakhs better than the highest previous record. Both the Major and Minor Works contribute to those excellent results. The amount

collected on the Triple Canal system was Rs. 36,12,074, including Rs. 4,57,796 on account of indirect receipts representing chiefly the interest at 4 per cent. on the sale-proceeds of the Government waste lands on the Upper Chenab and Lower Bari Doab Canals and including only a small amount for land revenue and malikana. The question of indirect credit on these new canals is under consideration. With reference to the remarks in paragraph 7 of the report on the Ghaggar Canals, which are still shown as worked at a loss, the Lieutenant-Governor would be glad if the Chief Engineer should examine the system of credits with the Financial Commissioner.

The working expenses for the year are compared below with the similar figures of the annual averages of the two previous trienna and of the year 1915-16:—

Particulars.	AVERAGE OF THE TRIENNIA ENDING		During 1915-16	During 1916-17.
	1912-13.	1915-16.		
IMPERIAL AND PROVINCIAL.			Rs.	Rs.
Major Works ...	... ... ...	82,50,226	96,83,993	1,09,31,516
Minor Works ...	... ... ...	10,08,284	9,63,083	9,47,933
Total	...	92,58,510	1,06,47,677	1,18,79,476
NATIVE STATES.				
Major Works ...	... ... ...	8,16,823	8,93,607	9,24,201
Minor Works ...	... ... ...	3,990	7,664	4,763
Total	...	8,20,614	9,01,231	9,28,965
				10,51,830

Excluding the three recently constructed canals of the Triple Project, which needed a larger amount for up-keep, the expenditure on Major Works was about normal; and was incurred chiefly on repairing the damage caused to canal banks by the heavy monsoon, and on the ordinary maintenance and silt clearance.

The expenditure on Minor Works is met out of the ordinary revenue and was restricted to a minimum in accordance with the orders in force regarding retrenchment.

The net revenue for the year compares as follows with that of the previous periods:—

Particulars.	AVERAGE OF THE TRIENNIA ENDING		During 1915-16.	During 1917-18.
	1912-13.	1915-16.		
IMPERIAL AND PROVINCIAL.		Rs.	Rs.	Rs.
Major Works ...	... ... ...	1,94,93,345	2,49,41,595	2,56,58,288
Percentage on Capital	... ... ...	18.32	11.50	10.90
Minor Works ...	... ... ...	7,34,031	9,51,497	9,38,598
Total	...	2,02,28,270	2,58,03,092	2,45,96,886
NATIVE STATES.				
Major Works ...	... ... ...	12,18,062	15,53,792	15,64,102
Percentage on Capital	... ... ...	7.97	10.05	10.12
Minor Works ...	... ... ...	-3,903	-7,562	-4,763
Total	...	12,14,999	15,46,030	15,59,239
				17,41,264

On the Major Irrigation Works the net revenue earned showed an increase of about Rs. 50 lakhs over the figures of the previous year. Of this Rs. 17.57 lakhs were contributed by the new canals of the Triple Project, which showed a deficit in the previous year. The increase on the other canals was attributable to the favourable monsoon rainfall in the *kharif* crop of the year under report. The *rabi* crop of the year 1915-16, the demand for which was collected during the year, also yielded good financial results as the abnormal drought created an unusually keen demand for the moderate supplies available.

The interest charges for the year amounted to Rs. 70,03,847 and the net profit, after defraying interest charges, was Rs. 2,16,57,591 or 9.82 per cent. on the Capital outlay to date. In the previous year the corresponding figures were Rs. 1,64,21,265 and 7.56 respectively.

The Minor Works have also done well and show an increase of nearly 2 lakhs over the figures of the previous year.

The percentage of net revenue on Capital outlay on the principal canals was as follows:—

Canal.	Excluding interest charges.				Including interest charges.	
	...	...	...	...	...	...
Western Jumna	...	...	...	...	10.15	7.00
Sirhind (Imperial)	...	...	...	...	11.63	8.49
Upper Bari Doab	..	...	...	..	17.35	14.17
Lower Bari Doab	...	...	...	..	1.55	—1.62
Upper Chenab	...	...	...	...	4.89	1.71
Lower Chenab	...	...	..	...	43.6	40.42
Upper Jhelum	...	...	...	...	—1.27	—1.45
Lower Jhelum	...	...	...	...	23.56	20.35
Upper Sutlej Inundation Canals	...	...	..	..	9.19	6.08
Sidhnai	...	...	...	...	32.25	29.08
Indus Inundation Canals	...	...	..	..	4.35	1.14

With the exception of the Upper Jhelum Canal, Upper Sutlej Inundation Canals and Sidhnai Canals, all the other Major Irrigation Works as detailed above showed improvement over the figures of the previous year.

The collections on the Upper Jhelum Canal were for *kharif* only, there was no *rabi* crop in 1915-16. The tabular statement above is unfair to the Upper Jhelum Canal, as most of its Capital Expenditure is for the benefit of the Upper Chenab Canal and Lower Bari Doab Canal, and not for local irrigation. For proper comparison with the older canals the three canals should be taken together. For the Triple Canal system as a whole, the net revenue percentages are 1.49 excluding interest charges, and — 1.58 including interest charges. As regards the financial results it has to be borne in mind that no less than one-third of the total income, or 130 lakhs, is made up of indirect receipts on account of land revenue due to the canal, water advantage or owner's rate, proceeds of sales of Government lands in the Colonies. These receipts explain the extraordinarily high profits on the Lower Chenab, Lower Jhelum and Sidhnai Canals on which most of the land irrigated belonged to Government. They also swell the profits for the Punjab Canals, as a whole, which, if indirect receipts were excluded, would amount to only 4 per cent. on the Capital outlay.

*General Remarks.*

7. This was the first complete year of irrigation from the Upper Jhelum Canal which was opened for irrigation in December 1915. Thus all three canals of the Triple Project were in operation during the year. As the river supplies were unusually low, the question of an equitable distribution of the supply of the three Rivers—Chenab, Jhelum and Ravi—amongst the five canals dependent thereon (Upper and Lower Jhelum, Upper and Lower Chenab and the Lower Bari Doab) had to be considered. A programme of rotational canal turns was arranged by the Chief Engineer, after consultation with the Superintending Engineers of these canals; and the distribution effected thereby proved, on the whole, fair. Experience has indicated the need for certain modifications which are being tried. Certain difficulties in adjusting the conflicting claims of the five canals are inevitable in seasons of short supply, and the Lieutenant-Governor will be glad if in future reports some reference is made to any difficulties which may arise, and the manner in which they have been solved. Our important consideration is to give as timely notice as possible to the officers controlling each system and through them to the irrigators of any reductions in the supply or of contemplated rotational working.

8. Another feature of the year was that the construction estimate of the Triple Project was closed on the 31st March 1917 with an expenditure of Rs. 10,10,66,394 against the estimated amount of Rs. 10,36,81,985, showing a saving of Rs. 26,15,591.

9. The length of channels in operation at the end of March 1917 was 19,267, *viz.* 4,399 miles of main and branch canals and 14,868 miles of distributaries. Sixty-seven miles of canal and branches and 391 miles of distributaries were opened for the first time for irrigation during the year.

10. The estimated value of crops raised on all canals for the year under review is Rs. 32,09,18,736 as compared with Rs. 27,50,82,336 for the previous year. These figures represent averages of Rs. 35.75 and Rs. 32 $\frac{1}{4}$ , respectively, per acre matured. The calculations are based on the outturn and prices given in the seasons and crops report for the year 1916-17, and the Lieutenant-Governor believes the estimates to be studiously moderate.

11. The growing importance of irrigation to the people and to Government and the steadily increased profits it secures to both are the strongest arguments for extending the irrigation system wherever conditions are favourable, and several promising projects are now under the consideration of Government:—

- (1) The project estimate for the construction of a barrage across the River Jhelum, at its exit from the Woolar Lake, which was prepared by Mr. R. E. Purves, C.I.E., late Chief Engineer, Irrigation Works, Punjab, in the summer of 1915, and which was noticed in the review for the previous year, is now being further considered in connection with its financial details. The object of this scheme is to store water in the Woolar Lake during the monsoon period for use in the Punjab canals during the rabi season. The Lieutenant-Governor has recently had an opportunity of discussing the project on the spot with Mr. Woods and the Kashmir Darbar and their officials and he trusts it is now on a fair way towards realization.
- (2) In accordance with the orders received from the Government of India in 1915-16, the project estimate in connection with the utilization of the surplus waters of the Sutlej River below its confluence with the Beas, was modified.

This project is intended—

- (i) to maintain the supply of water to the area now served by existing Inundation Canals, and
- (ii) to utilize the balance in the British and Native States territories to the best advantage.

The project is estimated to cost Rs. 9,90,44,075 with an annual income in the 10th year after completion, of Rs. 97,39,365 being a net return of 9.8 per cent. on the cost

- (3) Another very promising scheme now being worked up involves the construction of a dam at Bhakra on the Sutlej River about 40 miles above the site of the head works of the Sirhind Canal to head up to a depth of 360 feet above river bed. It is estimated that this dam will impound about two-and-a-half million foot acres during the summer.
- (4) In connection with the Haveli Project noticed in the last year's review more information, in detail, is being collected regarding available cold weather supplies and the effect at Haveli of a dry river below the Rasul Weir. The project is estimated to cost about 165 $\frac{1}{2}$  lakhs of rupees and to bring in a return of about 6 per cent. on the capital cost.
- (5) Another important scheme which is being elaborated is the Sindh Sagar Project. Preliminary surveys for which were started in November 1915. This project is intended to irrigate about 2 million acres of land in the Sindh Sagar Doab, from a canal taking out on the left bank of the Indus near Mari and opposite Kalabagh. The scheme was partly investigated in 1912, but was put aside as more promising projects were then considered possible. About 30 per cent. of this country lying in the centre of the Doab is covered with sand hills. Both the Lieutenant-Governor and the Financial Commissioner (Mr. Fagan) toured over the Doab in different directions last spring and the conclusion provisionally arrived at is that excluding the very sandy portion of the Central Doab south of the Jhang-Bhakkar Road, there is an ample area of good land, much of it Government waste, to justify the construction of the canal. Accordingly, a rectangular survey by the Survey Department has been put in hand as a basis for a detailed soil survey to be undertaken later by the Revenue Staff. A large amount of survey work has been carried out by the Irrigation Department and information collected by the Revenue Department at various times during the last 44 years and this can be utilized in working up the rough project.

12. The Lieutenant-Governor is very pleased to see that the question of the risk of water-logging due to seepage from canals on the necessity of which he has so often insisted, is not being overlooked. The Hafizabad tract has been much improved by surface drainage, and it is particularly satisfactory to learn that the abnormal monsoon rains of 1916-17, have not arrested the improvement. Certain reaches of the Main Line and Jhang Branch of the Lower Chenab Canal, were lined with water-proof material, but it is difficult to draw definite conclusions as to the value of the work done, in the absence of precise means of measuring its effect. On the Upper Chenab Canal the local drainages have been surveyed, and proposals for improving them to prevent water-logging are under consideration. Around Amritsar tube-walls

are increasing in number and the operating area of the Hydro-Electric pumping scheme is gradually extending, and its effect on this water-logged tract should soon be noticeable.

13. Paragraph 5 of the report gives details of the punishments, Judicial and Departmental, inflicted for misconduct and inefficiency. There is no Department of Government which is brought into closer relations with the people than the Irrigation Branch and on the honest and efficient discharge of their duties by the great body of officials whom the Department controls, the credit of the administration very largely depends. The responsibility of the Superior Officers of the Department for checking abuses, preventing partiality or exactations on the part of the subordinate establishment is a very heavy one, and the Lieutenant-Governor is glad to observe that this all-important matter is now receiving the attention it merits.

14. The posts of Chief Engineers were held during the year under review by—

		<i>From</i>		<i>To</i>
Mr. W. F. Holms	...	...	1-4-1916	... 31-3-1917.
Mr. T. R. J. Ward	...	...	1-4-1916	... 30-12-1916.
Mr. F. W. Woods	...	...	31-12-1916	... 31-3-1917.

The Lieutenant-Governor recorded his appreciation of Mr. Ward's services in his review of the report for the previous year. He desires to thank Messrs. Holms and Woods for their efficient administration and the officers of the Department—which has been seriously depleted by the number of officers who have volunteered for Military service or Engineering and other work in connection with the War—for their admirable devotion to duty in a year of great strain and the splendid results they have achieved for the Government and the people of the Province.

By order of His Honour the Lieutenant-Governor,  
 W. F. HOLMS,  
*Secretary to Government, Punjab.*

**ADMINISTRATION REPORT**  
 OR THE  
**CANALS IN THE PUNJAB**  
 FOR THE YEAR  
**1916-17.**

**GENERAL.**

1. The direct receipts and expenditure of the Irrigation Department Direct Receipts and Expenditure during the year were as follows :—

CLASS OF WORKS.	DIRECT RECEIPTS.	DIRECT EXPENDITURE.			Total.
		Capital.	Working expenses.		
	Rs.	Rs.	Rs.	Rs.	
Major Irrigation Works.	Imperial	2,77,00,618	34,55,730	1,03,37,710	1,27,93,470
	Contributions	73,862	15,294	5,44,543	5,59,827
Minor Irrigation Works.	Imperial	2,57,305	...	7,81,860	7,81,860
	Contributions	...	...	3,105	3,105
Provincial Canals	...	32,492	...	47,085	47,085
GRAND TOTAL		2,87,64,477	34,71,014	1,17,14,333	1,51,85,317
Average of the three years ending 1915-16.		2,52,97,116	74,35,028	1,05,85,900	1,79,70,928

\*Excludes "refunds of revenue."

2. The indirect revenue credited to the canals on account of Enhanced Indirect Revenue. Land Revenue, etc., amounted to Rs. 1,29,51,275. The average credit on this account of the three previous years amounts to Rs. 1,13,14,614.

3. The following table shows the areas irrigated by the several canals in 1916-17 as compared with the averages of the previous triennium :—

Names of canals.	Average of the three years ending 1915-16.			1916-17.
<i>Major Irrigation Works.</i>				
Western Jumna Canal	Imperial ...	759,138	748,763	
	Patiala State ...	67,550	79,694	
Sirhind Canal...	Imperial ...	879,390	891,781	
	Patiala, Nabha and Jind States ...	503,202	533,959	
Upper Bari Doab Canal	...	1,153,453	1,201,297	
Lower Bari Doab Canal	...	182,025	514,936	
Upper Chenab Canal	...	233,685	437,477	
Lower Chenab Canal	...	2,280,630	2,286,729	
Upper Jhelum Canal	...	...	117,605	
Lower Jhelum Canal	...	826,399	804,761	
Upper Sutlej Canals...	...	333,238	313,151	
Sidhnai Canal	...	285,505	298,556	
Indus Canals	...	235,079	265,169	
Total Major Irrigation Works.	Imperial ...	7,168,542	7,880,214	
	Native States ...	570,752	613,653	
<i>Minor Irrigation Works.</i>				
Shahpur Inundation Canals	Imperial ...	38,750	46,769	
	Provincial ...	26,768	31,404	
Ghaggar Inundation Canals	Imperial ...	19,707	28,327	
	Bikaner State... ...	6,023	12,040	
Lower Sutlej Inundation Canals (including Hajiwah Canal)	...	813,586	363,881	
Chenab Inundation Canals	...	195,606	205,075	
Murassargarh Inundation Canals	...	377,259	398,458	
Ravi Inundation Canals (Provincial)	...	6,779	...	
Total Minor Irrigation Works.	Imperial ...	944,908	1,042,513	
	Provincial ...	33,547	31,404	
	Native States ...	6,023	12,040	
Total Major and Minor Irrigation Works.	Imperial ...	8,118,450	8,922,727	
	Provincial ...	33,547	31,404	
	Native States ...	576,775	625,693	
GRAND TOTAL	...	8,723,772	9,579,624	

## Financial Results.

4. The canals in the Punjab show the following results for 1916-17:—

## I.—CANALS IN OPERATION CLASSED AS PRODUCTIVE.

## Major Works.

		Rs.
Capital expenditure } Direct charges ...	...	34,55,780
during the year. } Indirect charges ...	...	<u>2,08,979</u>
	Total	<u>36,64,709</u>
The capital invested to end of 1916-17 amounted to	...	22,06,16,193
Income from all sources less refunds (Rs. 7,024) ...	...	3,96,31,912
Working expenses less refunds (Rs. 7,024) ...	...	<u>1,09,70,471</u>
Balance excess revenue being 12.99 per cent. on Rs. 22,06,16,193		2,86,61,441
<i>Interest</i> —		Rs.
Total Direct outlay to 31st March 1917	...	21,41,97,441
Less half outlay during 1916-17	...	<u>17,27,865</u>
Mean Capital at charge	...	21,24,69,576
Interest on Rs. 21,24,69,576 at 3.2964 per cent.	...	<u>70,08,847</u>
Net profit after paying interest in 1916-17	...	2,16,57,594
Ditto           ditto           1915-16	...	1,64,21,265
Ditto           ditto           1914-15	...	<u>1,94,82,697</u>

The earnings of the "9—Major Works" are shown in line 24 of the statement at pages 4 and 5.

## II.—IMPERIAL CANALS, MINOR WORKS NOT CLASSED AS PRODUCTIVE.

No capital outlay was incurred during the year on those canals for which Capital and Revenue Accounts are kept, *viz.*, Shahpur Imperial and Ghaggar Canals. The total expenditure on such canals to end of year 1915-16 was, therefore, Rs. 5,92,013, the same as in the previous year.

	Rs.
The income from all sources less refunds (Rs. 480) amounted to ...	19,61,291
Working expenses less refunds (Rs. 480) ...	<u>8,24,572</u>
Balance profit in 1916-17 ...	11,36,719
Ditto           1915-16    ...	9,44,305
Ditto           1914-15    ...	<u>9,47,214</u>

The financial results of each Minor Work are shown in the body of the report.

## III.—PROVINCIAL CANALS.

There are only two Provincial Canals in operation, *viz.*, the Shahpur Provincial Canals and the Ravi Inundation Canals.

	Rs.
The income from all sources less refunds (nil) amounted to ...	48,687
Working expenses less refunds (nil) ...	<u>50,013</u>
Balance profit in 1916-17 ...	—1,326
Ditto           1915-16    ...	—5,707
Ditto           1914-15    ...	<u>26,215</u>

5. The total number of dismissals and punishments was 110. Of these 38 were dismissed after departmental enquiry Dismissals and Punishments. 5 after judicial enquiry, 7 for serious misconduct, 6 for inefficiency and one for absence without leave. Of the other forms of punishment penal transfers accounted for 24, non-recommendation in rolls 11 and reduction in rank or pay 8. This total does not include disciplinary punishments.

## CANALS IN OPERATION CLASSED AS PRODUCTIVE

PARTICULARS		Serial No.	CANALS IN OPERATION CLASSED AS PRODUCTIVE					
1	2		Western Jumna Canal (including Sirsa Branch).	Sirhind Canal (Imperial).	Upper Bari Doab Canal.	Lower Bari Doab Canal.	Upper Chenab Canal.	Lower Chenab Canal.
		2	3	4	5	6	7	8
I.—Capital (direct and indirect) outlay to end of	1915-16 ... 1916-17 ...	1	Rs. 1,76,92,595	Rs. 2,55,66,653	Rs. 2,15,72,497	Rs. 2,10,81,992	Rs. 3,45,01,593	Rs. 3,15,90,780
II.—Income realized during the year—	1915-16 ... Direct, etc., water rent and misc. collaneous receipts. 1916-17 ...	2	Rs. 1,76,93,755	Rs. 2,55,62,813	Rs. 2,18,87,858	Rs. 2,18,74,208	Rs. 3,63,42,184	Rs. 3,23,65,018
Indirect, etc., land revenue due to Irrigation Works, including water advantage rate.	1915-16 ... 1916-17 ...	3	Rs. 27,75,301	Rs. 31,37,789	Rs. 41,02,676	Rs. 4,32,511	Rs. 9,66,268	Rs. 81,47,760
Total Direct and Indirect	1915-16 ... 1916-17 ...	4	Rs. 29,43,410	Rs. 42,20,895	Rs. 45,30,959	Rs. 7,01,910	Rs. 23,09,678	Rs. 87,62,076
III.—Charges (direct and indirect) for the year—	1915-16 ... Maintenance, including Establishment. 1916-17 ...	5	Rs. 2,30,900	Rs. 89,551	Rs. 5,10,293	Rs. 1,20,036	Rs. 61,077	Rs. 74,71,450
Interest on Capital outlay	1915-16 ... 1916-17 ...	6	Rs. 2,08,310	Rs. 1,62,791	Rs. 6,83,875	Rs. 2,02,924	Rs. 2,51,872	Rs. 60,68,027
Total	1915-16 ... 1916-17 ...	7	Rs. 80,06,351	Rs. 32,27,340	Rs. 47,18,060	Rs. 5,63,497	Rs. 10,17,333	Rs. 1,59,22,240
V.—Profit and Loss—	Amount 1915-16 ... 1916-17 ...	8	Rs. 31,61,750	Rs. 43,63,670	Rs. 52,08,884	Rs. 8,64,803	Rs. 25,69,550	Rs. 1,69,80,103
(a) Including Interest on Capital outlay.	1915-16 ... 1916-17 ...	9	Rs. 14,05,414	Rs. 12,83,826	Rs. 13,72,655	Rs. 6,60,996	Rs. 8,33,803	Rs. 32,71,933
On Direct income	Amount 1915-16 ... 1916-17 ...	10	Rs. 13,56,021	Rs. 13,87,150	Rs. 14,19,126	Rs. 6,28,356	Rs. 8,39,264	Rs. 27,19,783
On total income, Direct and Indirect.	Amount 1915-16 ... 1916-17 ...	11	Rs. 5,85,653	Rs. 8,44,273	Rs. 7,27,655	Rs. 7,02,171	Rs. 11,48,372	Rs. 10,76,007
(b) Excluding Interest on Capital outlay.	1915-16 ... 1916-17 ...	12	Rs. 5,66,629	Rs. 8,03,114	Rs. 6,95,010	Rs. 6,93,632	Rs. 11,20,619	Rs. 10,31,963
On Direct income	Amount 1915-16 ... 1916-17 ...	13	Rs. 19,91,400	Rs. 20,83,191	Rs. 21,00,420	Rs. 13,59,156	Rs. 19,60,680	Rs. 13,45,000
On total income, Direct and Indirect.	Amount 1915-16 ... 1916-17 ...	14	Rs. 19,12,580	Rs. 21,90,264	Rs. 21,15,176	Rs. 13,20,038	Rs. 19,48,812	Rs. 17,61,751
On Direct income	Percentage on Capital outlay 1915-16 ... 1916-17 ...	15	10,14,951	11,44,269	23,18,549	-7,99,659	-9,63,941	1,15,74,210
On total income, Direct and Indirect.	Percentage on Capital outlay 1915-16 ... 1916-17 ...	16	12,39,200	21,73,412	30,89,680	-3,55,145	6,01,738	1,30,78,352
On Direct income	Amount 1915-16 ... 1916-17 ...	17	Rs. 773	Rs. 447	Rs. 11.97	-5.79	-2.79	36.40
On total income, Direct and Indirect.	Amount 1915-16 ... 1916-17 ...	18	Rs. 760	Rs. 839	Rs. 16.17	-1.62	1.71	40.42
On Direct income	Amount 1915-16 ... 1916-17 ...	19	Rs. 13,09,847	Rs. 18,98,931	Rs. 27,80,111	-2,18,474	-1,22,649	Rs. 51,75,767
On total income, Direct and Indirect.	Amount 1915-16 ... 1916-17 ...	20	Rs. 15,87,619	Rs. 23,83,785	Rs. 31,20,863	Rs. 1,85,618	Rs. 14,70,414	Rs. 60,42,293
On Direct income	Percentage on Capital outlay 1915-16 ... 1916-17 ...	21	7.74	7.43	12.43	-1.04	0.35	10.28
On total income, Direct and Indirect.	Percentage on Capital outlay 1915-16 ... 1916-17 ...	22	8.58	11.07	14.20	0.83	4.16	16.67
On Direct income	Amount 1915-16 ... 1916-17 ...	23	Rs. 16,00,937	Rs. 19,86,482	Rs. 33,46,401	-97,488	Rs. 1,69,625	Rs. 1,23,50,247
On total income, Direct and Indirect.	Amount 1915-16 ... 1916-17 ...	24	Rs. 17,95,729	Rs. 20,70,526	Rs. 37,89,738	Rs. 3,38,507	Rs. 17,25,266	Rs. 1,41,10,320
On Direct income	Percentage on Capital outlay 1915-16 ... 1916-17 ...	25	9.01	7.78	16.29	-0.48	0.53	30.75
On total income, Direct and Indirect.	Percentage on Capital outlay 1915-16 ... 1916-17 ...	26	10.15	11.03	17.35	1.56	4.88	43.61

MAJOR WORKS.					INTERNAL CANALS, MINOR WORKS, NOT CLASSED AS PRODUCTIVE.		PROVINCIAL CANALS.		Serial No.	
Upper Jhelum Canal.	Lower Jhelum Canal.	Upper Futto (Including Lower Bohag and Para).	Bidhahi Canal.	Indus Inundation Canals.	Total Productive.	Works for which Capital and Revenue Accounts are kept.	Works for which only Revenue Accounts are kept.	Bidhahi Provincial Canals.	Indus Inundation Canals.	
9	10	11	12	13	14	15	16	17	18	19
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
4,27,61,110	1,03,65,762	18,18,541	15,32,061	29,74,309	21,09,51,144	5,02,013	...	...	...	1
4,33,49,917	1,59,83,169	18,19,840	13,08,401	29,82,251	22,08,10,193	5,02,013	...	...	...	2
6,235	16,49,441	8,70,048	6,23,450	1,50,018	9,07,57,173	3,03,636	3,03,636	20,002	833	3
83,581	29,73,910	8,92,626	6,69,105	2,74,000	2,77,00,012	1,02,101	8,58,309	83,492	...	4
...	14,72,343	2,62,457	2,62,320	2,50,027	1,07,92,133	11,107	8,45,812	8,457	883	5
...	17,61,053	2,16,348	1,81,344	2,73,700	1,10,01,294	8,072	8,09114	12,973	3,222	6
6,235	41,21,540	7,10,103	6,21,570	4,57,173	8,15,59,564	1,00,741	17,51,157	86,359	1,270	7
83,581	47,88,503	6,70,701	6,50,740	1,24,230	8,04,31,810	1,01,683	18,31,423	45,463	8,222	8
3,42,150	9,17,140	4,00,000	1,42,711	4,31,341	1,70,01,136	65,820	8,16,723	40,000	2,353	9
6,40,700	9,69,062	4,41,311	1,79,132	2,71,711	1,09,70,171	77,671	7,16,017	47,600	2,301	10
14,31,020	7,83,701	79,471	61,753	97,713	73,37,21	...	...	...	...	11
13,34,260	8,19,921	70,673	42,621	97,510	70,13,447	...	...	...	...	12
14,31,020	13,70,721	6,70,740	1,91,471	6,39,471	1,91,70,741	8,00	8,15,723	40,000	2,353	13
20,21,710	14,07,501	8,03,002	2,01,735	4,91,123	1,79,74,310	77,625	7,46,017	47,600	2,301	14
-17,40,000	27,67,273	8,70,917	6,41,310	-1,72,221	1,71,21,221	...	...	...	...	15
-10,51,421	22,41,710	1,10,763	8,75,114	83,143	2,10,35,631	...	...	...	...	16
-612	17,37	1821	4641	-341	936	...	...	...	...	17
-445	1939	647	2304	114	082	...	...	...	...	18
-3,23,010	16,31,631	60,337	4,70,718	-2,54,730	1,25,63,075	5,731	-7,29,192	-11,651	-3,001	19
-1,57,161	10,50,743	-49,572	8,01,353	-1,63,703	1,07,53,347	41,611	1,03,392	-15,117	-3,401	20
070	31-17	2-31	6-61	-376	501	007	...	...	...	21
-127	32-10	4-2-67	22-42	-4-82	718	415	...	...	...	22
-8,35,010	83,08,924	8,30,393	8,96,187	-4,430	2,80,58,285	20,551	8,23,401	-8,691	-1,119	23
-5,67,104	37,61,631	1,07,300	4,82,737	1,29,703	2,85,71,441	10,213	10,57,303	-3,111	818	24
070	2970	1850	5175	-016	1000	022	...	...	...	25
-127	2160	910	2225	425	1200	1000	51	...	...	26

## Major Irrigation Works.

## WESTERN JUMNA CANAL.

(SUPERINTENDING ENGINEER—MR. G. C. LAURIE.)

1. A small expenditure of Rs. 1,220 (Direct and Indirect) was incurred Capital Account. on completing the subordinates' rest-houses at *Kharif 1916.* *Rabi 1916-17.* Jaunti and Anta and the rest-house at Anta.

2. The expenditure amounted to Rs. 1,29,520 (Rs. 1,11,182 under Extensions and Improvements. "Imperial" and Rs. 18,338 under "Contribution") and was incurred on numerous small works for increasing the efficiency of the canal and in improvements to buildings.

3. The expenditure amounted to Rs. 6,17,830 (Rs. 5,92,095 under Maintenance and Repairs. "Imperial" and Rs. 25,735, under "Contribution"). In addition to this Rs. 19,557 and Rs. 21,676 were spent by the Patiala and Jind States, respectively, on the maintenance of their distributaries. Apart from ordinary repairs and maintenance of channels and buildings, numerous works of improvement were carried out.

The large Badarpur silting reach, 3 miles long and 1,000 feet wide on Main Line, was again successfully worked.

A 3-mile reach of silting tanks was started between Ghogripur and Jani on the Main Branch.

A marginal bund was constructed, about  $1\frac{1}{2}$  miles long, on both banks of the Main Canal at its worst reach, to control the supplies and contain them in one channel. Large sums were also spent on clearance of drains recently taken over from the District Boards and on clearance of Dhanaura Escape on the Main Line.

4. (a) *Kharif, 1916.*—No rain was received in the early part of the season

*Nature of Season and state of Demand and Supply.* and the river discharge was the lowest on record.

There was an enormous demand for filling village tanks and the river supply was quite insufficient to meet the canal indent during April, May and early June. The early arrival of a good monsoon, however, saved the situation which was, otherwise, getting very serious. The cotton crop was lost and dropped from a maximum of 220,330 acres in 1914 to 92,360 acres in 1916. Considerable areas were put down under fodder crops as there had been a fodder famine in the previous cold weather, but the arrival of the early and heavy monsoon enabled most of this to do without irrigation. The *Kharif* crop, though average on the whole, was nearly a lakh of acres below those obtained in 1913 and 1914.

During the monsoon the river was remarkably free from high floods considering the heavy rainfall.

The highest flood gauge registered was 27.5 feet at Ponta on the 18th June against a maximum recorded flood of 38.5 feet on the 14th August 1903.

(b) *Rabi, 1916-17.*—There were good rains in September which ensured a large area of *rabi* sowings. The canal remained in flow for 178 days and was closed for 4 days only in October. The supply was favourable throughout, but there was a keen demand on account of the very large crop and the absence of winter rains. The crop amounted to 480,544 acres, and was the highest on record and was also of good quality.

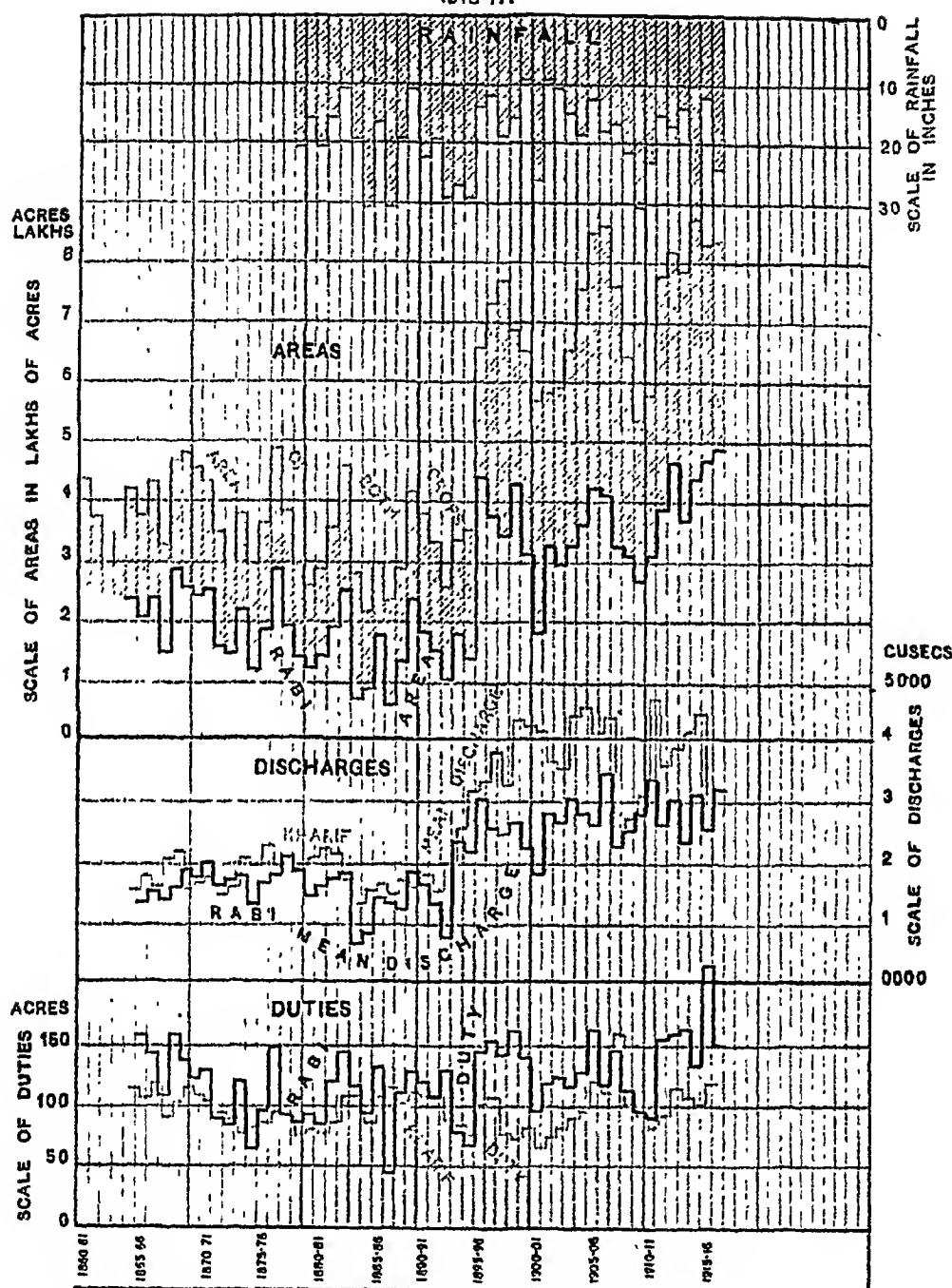
(c) *Rainfall.*—The following table compares the rainfall during the year with the average of the previous years:—

Station.	1916-17.			Average.
	Inches.		Inches.	
Ponta	...	...	...	57.2
Tajawala	...	...	61.7	52.9
Indri	...	...	28.7	28.4
Nimak	...	...	26.0	23.0
Delhi	...	...	23.3	20.7
Karnal	...	...	37.8	26.6
Dadupur	...	...	52.8	45.3
Hissar	...	...	27.0	14.1
Rohtak	...	...	21.2	17.7



WESTERN JUMNA CANAL.  
WORKING RECORD.

1916-17.



N. B.—The intercepts in the red area show the Kharif acreage each year.

The areas shown include those done in Patiala State on Sirsa, Branch.

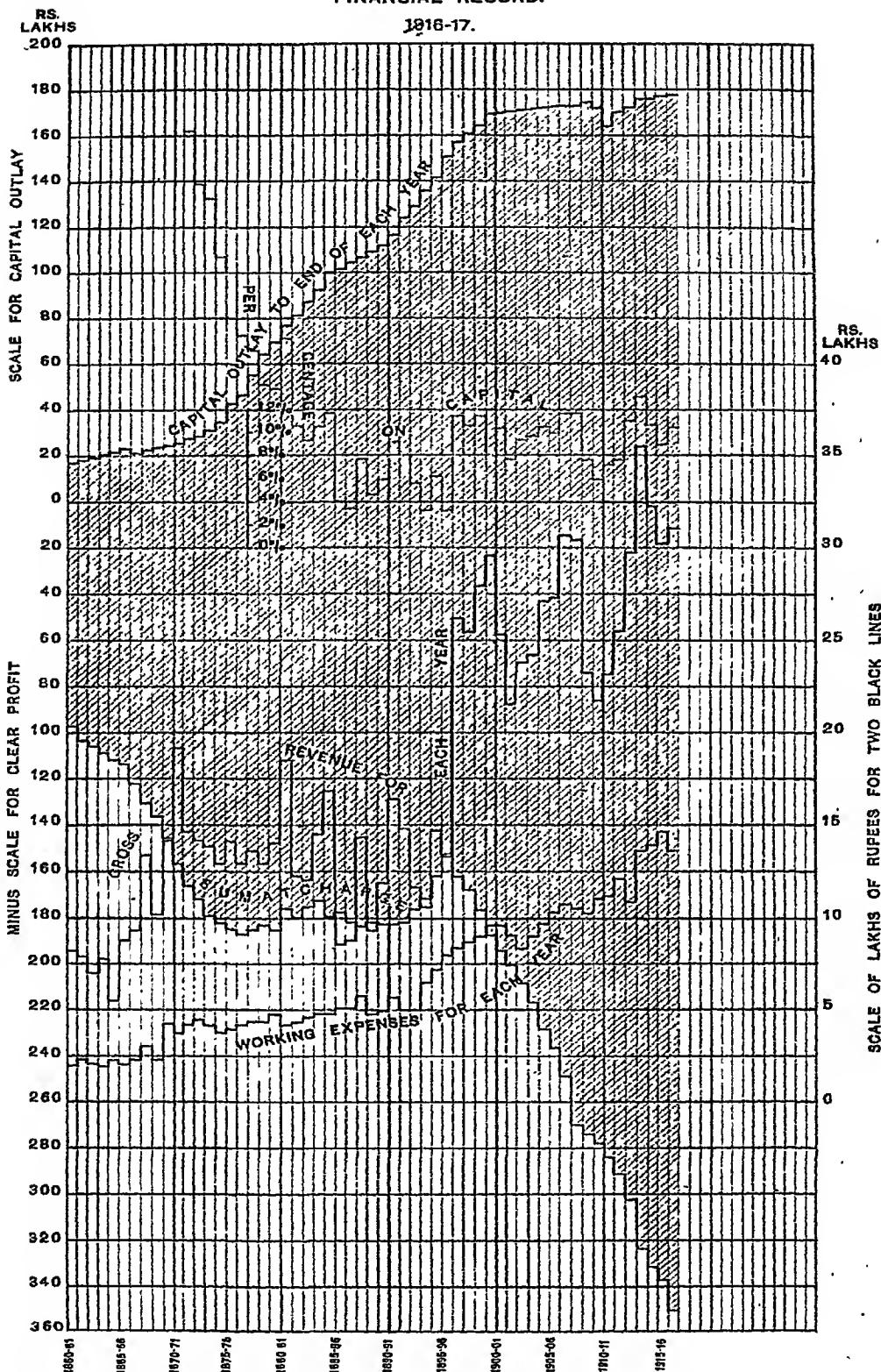
The discharges are as measured at canal head, and are averages utilised for the whole of each crop.

The duties are derived from the above areas and discharges.



# WESTERN JUMNA CANAL.

## FINANCIAL RECORD.



**N. B.**—This diagram does not include figures for Patiala State on Sirsa Branch; it is "Imperial" only. The intercepts to the blue area are measures of the accumulated clear profits of the scheme; and if measured on the minus scale the readings are clear profits after reimbursing the whole of the capital expenditure.

This canal was taken over in the early half of the 19th century without the expenditure of any capital; there has therefore never been any arrears of interest, and the sum at charge has never been greater than the capital. In 1900-01, it will be seen that the whole capital had been repaid, and about 194 lakhs in addition as clear gain.

No interest on this clear profit has been allowed for, so that the gain is more than shown.

The intercepts between the black lines show the net revenue each year.

The sudden rise in 1896-97 of gross receipts was due to a famine year, but has been continued since owing to large extensions.

5. The following table gives the irrigation effected during the year:—  
also the averages of the two previous triennia:—

Area irrigated,  
Kharif, 1916.  
Rabi, 1916-17.

Crop.	AVERAGE FOR THE THREE YEARS ENDING		Area irrigated during 1916-17.
	1912-13.	1915-16.	
	Acres.	Acres.	
Kharif ...	835,585	404,117	817,913
Rabi ...	392,158	422,571	480,544
Total ...	727,743	826,688	828,157

The area irrigated shows a most satisfactory improvement when compared with that of previous years, and this is due to recent improvements in channels. The area irrigated during *rabi* was the highest on record and exceeded the previous highest in 1912-13 by about 9,000 acres, a most satisfactory result.

The decrease in the *kharif* was due to the unprecedented low supply in the river during the period for sowing.

6. The receipts amounted to Rs. 73,586 and maintenance charges Rs. 5,357, showing a nominal profit of Rs. 68,229 against Rs. 47,113 in 1915-16 and Rs. 59,244 in 1914-15. The profit was largely due to the demand for sleepers created by the war.

No boats are now plying for hire on this canal, the only navigation being raft traffic and boats for carriage of Government material.

7. *Imperial*.—The gross revenue collected during the year amounted to Rs. 31,51,750, which is less by Rs. 1,01,657 than the average for the triennium ending 1915-16.

The decrease is due to the poor *kharif* crop of 1916.

The working expenses amounted to Rs. 13,56,021, which is Rs. 21,936 less than the average of the previous triennium.

The net revenue amounted to Rs. 17,95,729 against Rs. 18,72,390, the average of the previous triennium, and Rs. 16,00,937 of the previous year.

*Contribution*.—The net revenue received by the Patiala State on their channels on the Sirsa Branch amounted to Rs. 1,20,147 or 10.35 per cent. on the capital invested against an average of Rs. 1,52,018 or 13.10 per cent. for the triennium ending 1915-16 and Rs. 1,48,296 or 12.77 of the previous year.

8. (a) *Agricultural and other conditions of the year*.—The canal remained in flow for 339 days during the year and was closed for 22 days during *kharif* and 4 days during *rabi*. The monsoon was a good one and the rainfall above the normal except in the early months of the year. The area of crops remitted amounted to 4,855 acres in *kharif* and 1,879 acres in *rabi*, giving percentages of 1.39 and 0.39, respectively, on the area irrigated, against 6,184 acres for *kharif* and 12,630 acres for *rabi* or 1.71 and 2.72 per cent., respectively, in the previous year.

In the dry districts at Hissar and Rohtak there was severe fodder scarcity during the early *kharif* and the preceding *rabi* crop. Enormous quantities of fodder were imported at concession rates for the cattle and there was great demand for water for village tanks, but despite these measures, a

large number of cattle died and a large number were sent off to more favoured tracts.

The decrease in number and quality of the cattle had also a detrimental effect on the ploughing for cultivation.

The scarcity had a very unfortunate effect upon plantation. The branches of miles of avenues were lopped by the adjoining villages for fodder for their cattle and the dry branches and twigs blown into the canal channels blocked regulators and bridges and required considerable vigilance on the part of the staff for their prompt removal. It will be some time before the damage to the plantation is made good.

Very little advantage was taken by the zamindars of the concession recently granted for levying no water rates on *Gwar* ploughed in as green manure.

The swampy area along the lower reaches of the Main Line is gradually being improved by the system of expensive silting reaches, and the silted up areas are being now brought under cultivation while the area beyond is being cultivated up to the banks of the silting tanks. The upper reaches of the Main Line also provide most beneficial *sailab* cultivation: several thousand acres of sugarcane and other crops are thus grown from the canal *sailab* free of water rates.

The value of crops assessed to water rates amounted to Rs. 3,51,72,945, which shows that the canal is a very valuable asset to the country.

(b) *Nature and scope of contemplated new works and progress made on the preparation of new projects*—(i) Further designs and estimates for the proposed new Level Crossing at Dadupur have been under consideration. This work is, however, likely to be delayed by the impossibility of obtaining the iron work at a reasonable rate until after the war.

(ii) There are proposals under consideration for remodelling the Head-works at Tajewala.

(iii) There is also a project for substituting minors in place of direct watercourses for the Main Line irrigation.

(iv) The work of redesigning the existing old channels scientifically is being carried forward systematically as funds permit, and the advantage of this is already clear from the increased areas of *rabi* crops.

(c) *Interesting facts relating either internally or externally to the Canal*.—(i) The recent reduction in supply of water to the Delhi neighbourhood carried out at the request of the Chief Commissioner is having most beneficial effects. The garden owners naturally at first protested unanimously against the reductions, but they are now following the example set by official Delhi and are clearing out the thick undergrowth in their gardens and letting in air, and the reduced water supply is found to be sufficient. The insanitary state of these gardens is decreasing and the subsoil water level of the neighbourhood is falling also. The sections of the channels are gradually being reduced to correspond with reduction in discharge.

(ii) Saltpetre has been largely manufactured throughout Rohtak and Hissar Districts owing to the demand for it on account of the war. The water for this manufacture is generally supplied by village tanks filled from the canal, though in some cases local *kachha* wells are used.

(iii) The opening of the Jind-Panipat Railway during the year has been a great convenience to the canal area served by it.

(iv) The introduction of indigo on the canal alluded to in last year's report has not been found to be successful and is being abandoned.

9. *Irrigation in Patiala State*.—The irrigation in the Patiala State from the Sirsa Branch was 82,707 acres in *kharif* and 46,732 acres in *rabi*, or a total of 79,439 acres exclusive of 242 acres remitted in *kharif* and 13

acres remitted in *rabi*. The average area assessed for the last two triennia ending 1915-16 and 1912-13 was 67,179 and 61,307 acres respectively.

*Irrigation in Jind State.*—The supply which the Irrigation Branch has undertaken to allow the Jind State is 353 cusecs in order to irrigate an area of 60,000 acres in the year. The irrigation done during the year was 64,263 acres, resulting in an increase of 6,396 acres or 11·0 per cent. over the figures of 1915-16, i. e., 2,859 acres during *kharif* and 3,537 acres during *rabi*. The average areas irrigated during the two previous triennia ending 1912-13 and 1915-16 were 59,449 acres and 61,640 acres respectively.

Besides the area recorded above, the Jind State gets an average of 1,000 acres of irrigation from the Butana Branch which is assessed at the water rates prescribed for the British areas on the Western Jumna Canal.

The maintenance and assessment connected with all Jind distributaries are controlled by the State itself.

The following table shows the working of the Jind State distributaries as reported by the State :—

Particulars.	1912-13.	1913-14.	1914-15.	1915-16.	1916-17.
<i>Receipts.</i>					
Occupier's rate	... ... ...	2,60,491	2,84,720	2,88,998	2,62,051
Miscellaneous	... ... ...	5,023	5,360	5,083	5,678
Total	... ... ...	2,65,513	2,90,080	2,94,081	2,67,732
<i>Working expenditure.</i>					
Establishment	... ... ...	9,514	7,561	7,817	7,397
Other expenses	... ... ...	21,993	27,238	23,865	31,776
Occupier's rate paid into State's Treasury	1,42,353	1,31,070	1,31,000	1,31,070	1,31,000
Total	... ... ...	1,71,760	1,65,919	1,67,182	1,70,173
Profit or loss	... ... ...	+ 84,747	+ 1,24,261	+ 1,26,899	+ 87,539
					+ 1,00,187

*Irrigation in Bikaner State.*—The Western Jumna Canal has also to irrigate 160 acres annually in the Bikaner State from the tail of the Hissar distributary. The areas actually irrigated were 324 acres in *kharif* and 637 acres in *rabi*, or a total of 961 acres against 483 acres in *kharif* and 53 acres in *rabi* or a total of 568 acres of the previous year. This area pays the ordinary occupier's rates and is assessed by the Canal Staff.

*Irrigation in Kalsia State.*—The irrigation in Kalsia State from Main Line of the Canal was 739 acres in *kharif* and 793 acres in *rabi* or a total of 1,532 acres exclusive of 23 acres remitted in *kharif* and 117 acres in *rabi*. This area also pays the ordinary occupier's rates and is assessed by the Canal Staff.

The average area assessed for the last three years was 713 acres in *kharif* and 396 acres in *rabi*.

#### SIRHIND CANAL.

(SUPERINTENDING ENGINEER—MR. E. R. FOR.)

1. (a) *Imperial.*—The expenditure (direct and indirect) amounted to Rs. 36,255 and was incurred on fixing Stoney gates in Rupar undersluices and lock channel, and constructing Executive Engineer's quarters at Rupar; a girder cart bridge at Sahauli, Mile 19, Abohar Branch; and a foot bridge at Bull, Mile 7, Abohar Branch.

(b) *Contribution.*—The expenditure of Rs. 16,284 represents the share borne by the signatory States, of the expenditure incurred on the Head Works and Main Line of the canal.

2. (a) *Imperial*.—The expenditure amounted to Rs. 1,35,272 against Rs. 1,34,408 in the previous year. The only work of importance was the Slab Lining Experiments on the Main Line. A large number of slabs were made, but the work could not be completed for want of a canal closure. Considerable progress was made on raising and widening the sunken bridges on distributaries in the Ferozepore Division. Amongst minor works of importance are—raising and renewing the shoots of Jaghera Mills; constructing drinking reservoirs at certain rest-houses; improving Gahil rest-house and making a telephone office and Gauge-Reader's hut at Gholia.

(b) *Contribution*.—Expenditure amounted to Rs. 1,21,675, of which Rs. 82,883 represents soigniorago charges. The balance of Rs. 39,292 is partly the share of expenditure on works on the Main Line and Head Works and partly the expenditure incurred on huts for petty establishment, erecting iron railings on ramps of bridges, etc., on Native States branches.

3. (a) *Imperial*—The expenditure was Rs. 5,75,544 against Rs. 4,19,363 in 1915-16. The excess of Rs. 1,56,181 was caused by very heavy expenditure on the Budki, Siswan and Sugh torrents which had been rather neglected in previous years. A regular policy of training and defensive works was instituted. New and substantial forms of protection were adopted and it is confidently anticipated that after further work to be done in 1917-18, based on the experience gained in the current monsoon, we should have an impregnable series of protective works which should necessitate little or no repair work in future years.

Whereas of the works carried out in the ten years prior to 1915 little remains, the substantial works built in the winters of 1915-16 and 1916-17 have on the whole stood very well, and signs of weakness or defects in the designs will be removed this year and the future can be looked to with confidence.

All the above heavy works were carried out in addition to the ordinary maintenance of channels, works and buildings.

(b) *Contribution*.—The expenditure was Rs 2,22,061 as compared with Rs 1,42,931 spent in the previous year. The increase is due to heavy work on the torrent crossing the Main Line referred to in the previous paragraph.

4. (a) *Kharif, 1916*.—The canal was in flow for 125 days. The failure of the winter rains of 1915-16 led to a keen demand in the early months for water for fodder crops. This was followed by a heavy and well-distributed monsoon, and demand ceased entirely, so that the canal was closed all August. There was only a moderate demand in September. In spite of good rainfall the area irrigated, owing to extensive sowings early in the year on the whole canal, was the second highest on record, being only about Rs. 10,000 acres less than the maximum of 553,208 acres in *Kharif* 1914.

(b) *Rabi, 1916-17*.—The canal was in flow throughout the season. Owing to a heavy monsoon which was prolonged into October there was not an excessive demand early in the season. The river was high and rotational turns did not begin till 10th November, after which the supply fell and remained low throughout the season. There was no rise in the river owing to the failure of the winter rains and absence of storms in the hills, also there was no snow in the lower ranges of hills. The whole of the available supply was required for land already canal irrigated, and there was no water to spare for the large *barani* area which had been sown and, in the absence of rain, required canal water to mature.

The cultivators on this canal gamble on the rainfall. Had the river been kinder a large portion of the *barani* area would have become canal irrigated to the advantage of the cultivators and the canal.

(c) *Rainfall*.—The table below compares the mean rainfall of the year over the irrigated tract in each district with the average mean of 33 years. The *kharif* rainfall was up to or in excess of the average, but the *rabi* rainfall was in considerable deficit:—

District.	Crops.	RAINFALL.		Percentage of actual to average of 33 years.
		1916-17.	Average of 33 years	
Ludhiana	<i>Kharif</i> , 1916	15.58	15.82	
	<i>Rabi</i> , 1916-17	3.74	3.25	
Total	...	17.32	19.07	91
Ferozepore	<i>Kharif</i> , 1916	14.35	11.58	
	<i>Rabi</i> , 1916-17	0.75	2.14	
Total	...	15.10	13.72	110
Native States	<i>Kharif</i> , 1916	16.70	15.08	
	<i>Rabi</i> , 1916-17	2.40	3.05	
Total	...	19.10	18.13	105

5. The following table compares the irrigation effected during 1916-17 with the averages of the two triennia ending 1912-13 and 1915-16:—

Area irrigated.  
*Kharif*, 1916.  
*Rabi*, 1916-17.

Crop.	Average of three years ending 1912-13.	Average of three years ending 1915-16.		1916-17.	
		Acres.			
		BRITISH	BRANCHES.		
<i>Kharif</i>	...	258,200	321,756	333,530	
<i>Rabi</i>	...	605,913	557,634	558,191	
Total	...	864,113	879,390	891,781	
<i>Kharif</i>	...	148,528	101,450	211,186	
<i>Rabi</i>	...	207,264	308,743	322,775	
Total	...	455,792	500,202	533,959	
BRITISH AND NATIVE STATES BRANCHES.					
<i>Kharif</i>	...	406,728	516,215	544,774	
<i>Rabi</i>	...	903,177	866,377	880,096	
Total	...	1,309,905	1,382,592	1,425,740	

These figures show that the irrigation for the year was in excess of the average of either of the triennia quoted, although there was a decrease of 81,327 acres compared with the area irrigated in the previous year; this deficit was in the *rabi*, the *kharif* was a very good one and the second highest on record, 544,774 acres against the maximum of 555,208 acres in *kharif* 1914.

The *rabi* area of 880,966 acres was over the average of the triennium ending 1915-16, but slightly less than the average of the triennium ending 1912-13. The latter period was affected by the *rabi* crops of two very favourable years 1911-12 and 1912-13.

However, we may claim to have had a very favourable year; the total area irrigated has only been surpassed on three occasions, *viz.*, in 1911-12, 1912-13 and 1915-16. The percentages of increase over the triennium ending 1915-16 were 5.53 in *kharif* and 1.63 in *rabi*.

The Native States branches also did very well, the *kharif* area being the highest on record, *viz.*, 211,184 acres.

6. The details of traffic in tonnage and receipts is shown in this table:—

Particulars.	1915-16.	1916-17.
Tonnage carried	31,249	24,209
Value of tonnage	11,72,252	924,557
Toll receipts and raft dues	17,158	15,141
Maintenance charges	5,834	3,628
Number of passengers carried	20,605	18,409

There was a reduction in maintenance charges, and in consequence the net return was better than in the preceding year in spite of lower tonnage and fewer passengers.

7. (a) *British Branches*.—The net revenue earned by the British branches amounted to Rs. 29,76,526 equivalent to 11.63 per cent. on the capital invested as against 7.78 per cent. in the previous year. This favourable result was due to—

- (a) the very good *rabi* of 1915-16 (second highest on record) collected in 1916-17;
- (b) an uncollected balance of Rs. 1,35,000 at the end of previous year collected during the year;
- (c) the very poor *rabi* of 1914-15 (collected in 1915-16).

The following table gives the amount of occupier's rates collected and balance uncollected:—

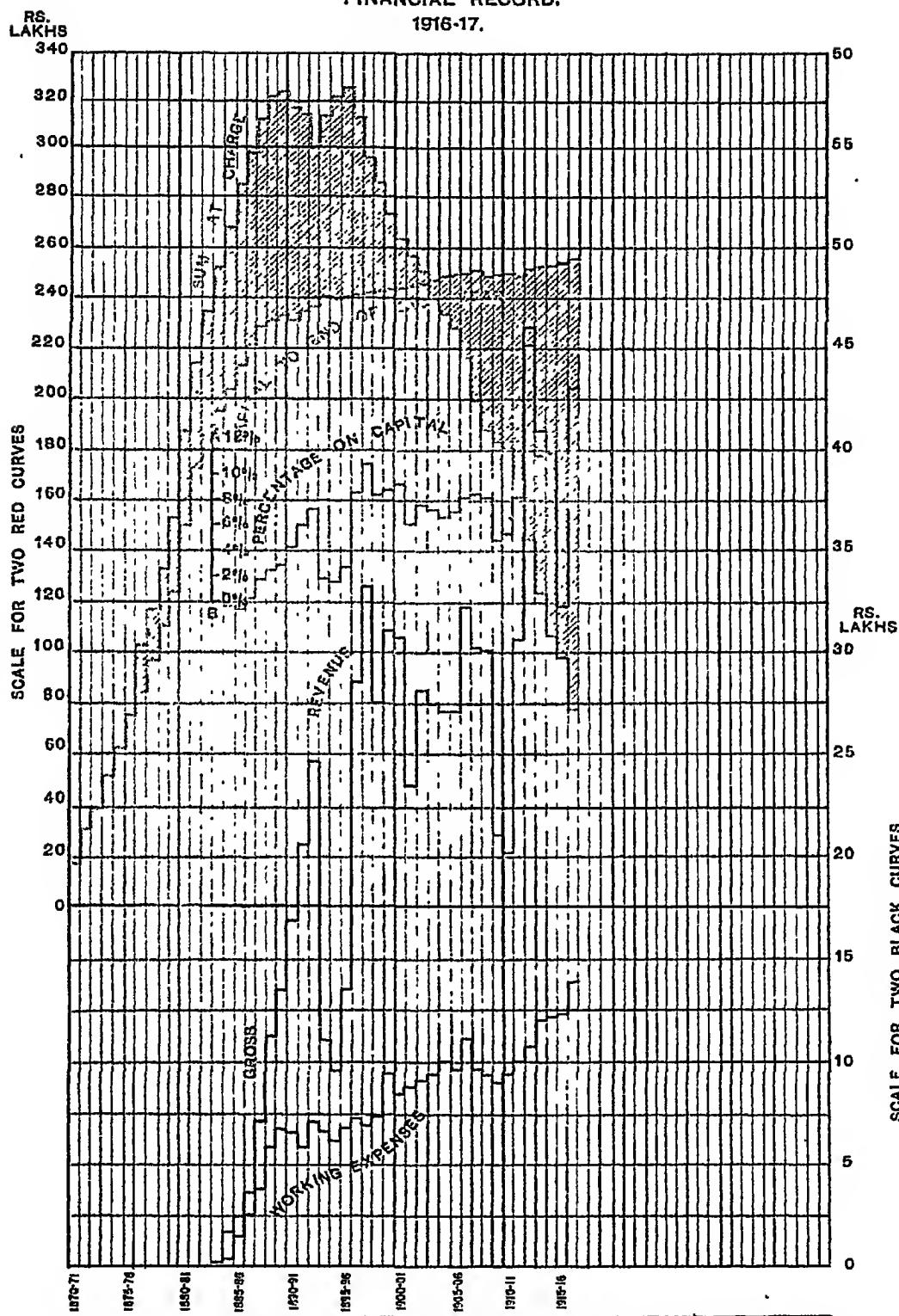
Year.	Collected.	Balances uncollected.
1914-15	Rs. 35,92,152	Rs. 28,099
1915-16	28,09,289	1,35,547
1916-17	39,58,965	28,098

The working expenses were Rs. 13,87,150 which was 1,48,292 more than in the previous year. The excess has been explained in paragraph 3 (a) *supra*. The working expenses per acre irrigated were 1.56 against 1.34 in the previous year.

# SIRHIND CANAL—BRITISH.

## FINANCIAL RECORD.

1916-17.



*N. B.*—The intercepts in the red area show arrears of interest which, added to the capital, give the sum at charge. Where the two red curves cross all such arrears were wiped off, and there after accumulated profits accrue, as measured by the intercepts in the blue area.

The scheme was begun about 1870 and opened in 1888-84. The lapse from prosperity shown in period 1888 to 1896 was partly due to silt troubles since overcome, and to exceptionally heavy rain.

The intercepts between the black curves give the net revenue.

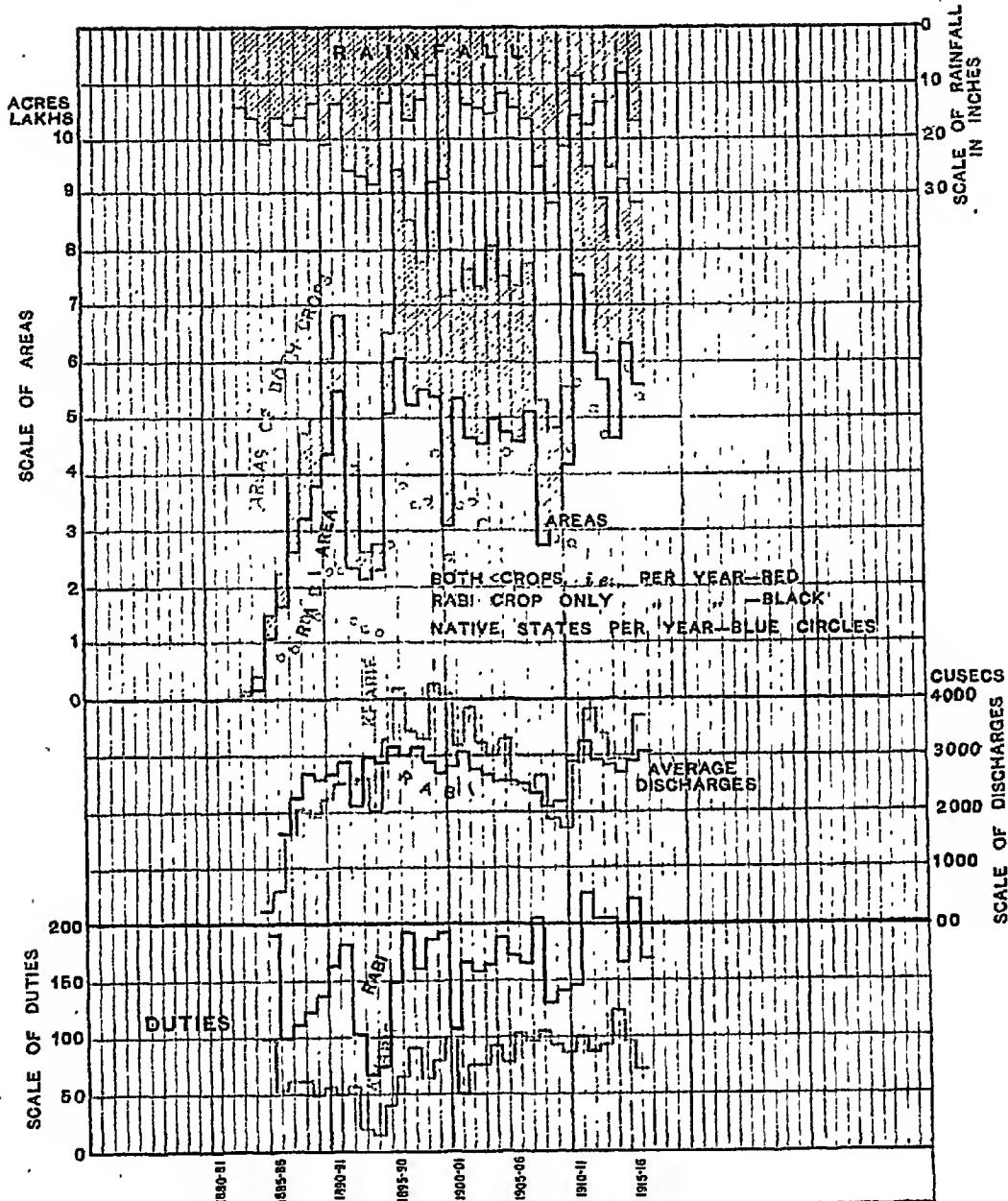
No interest is charged on the arrears of interest, so the sum at charge is somewhat untrue.



# SIRHIND CANAL—BRITISH.

## WORKING RECORD.

1916-17.



*N. B.*—The intercepts in the red area give the Kharif acreage each year.

The small arrows of 1892 to 1896 were partly due to silt difficulties, but chiefly to heavy rain. The working is more or less unsteady always.

The discharges are measured in main line 26 miles from the head. Of the whole supply 36% goes to Native States, not included here; so that the discharges here shown are only 64% of the actual flow.

These States ought therefore to do areas equal to  $\frac{36}{64}$ ths of those shown above. The actual areas done for both crops are shown for comparison by blue circle, and it will be seen that owing to less efficient management they have done less than half the British, instead of  $\frac{36}{64}$ ths. In winter the whole river is taken in; in Kharif the supply is more than enough, but the demand is then always low.



(b) *Native States Branches*—The following table compares the figures of collections, assessments, profits and area assessed with the previous year:—

Year.	AMOUNT OF REVENUE.		Area as- sessed. Acres	PROFIT ON		
	By collec- tion.	By assem- bly.		Collection.	Assessment.	
1915-16	... ... More or less	Rs. 22,46,852 25,72,310 + 3,25,452	Re. 25,94,262 24,22,608 - 1,73,654	577,511 532,050 - 45,761	9.90 11.33 + 1.48	12.33 10.33 - 2.00
1916-17	...					

The profits on "collections" are high because of the good *rabi* crop of 1915-16 collected in 1916-17. The estimated profits on assessments are lower because of the smaller *rabi* crop of 1916-17.

5. *New projects*.—(a) An estimate for constructing two small distributaries for irrigation in the Maler Kotla State has been submitted to the Government of India and their orders are awaited.

(b) The Bhakra Dam Project (in previous years referred to as the Neela Dam) is in course of preparation. The areas to be served and the volumes required for them have now been fixed. All field work is practically finished and alignments of new main channels have been selected. The site of the new headworks below Phirpur near the battlefield of Aliwal of the 1st Sikh War has been fixed. In the reservoir area complete plans have been prepared on village maps showing all details of the submerged areas. Investigations as to the capacity of water borne in the Sutlej above Bhakra and at Rupar have been carried out. Detailed proposals for the design of the Dam itself, its sluices and溢流道 are under consideration. It is anticipated that the total area of new irrigation will average 1,500,000 acres annually.

(c) A small project for utilising the waste waters of the Sutlej Navigation Channel (run in the *kharif* to work mills) to irrigate the country in the neighbourhood of Ferozepore is also under preparation.

*Effect of enhancement of water-rates*.—The effect of enhancement of water rates in the case of sugarcane, cotton and wheat has not been such as to restrict the areas under these crops. Compared with the previous year the results are as follows:—

*Sugarcane*.—Area irrigated 1,725 acres against 1,071 in the previous year.

*Cotton* has made a big jump—10,770 acres sown in 1916 against 1,631 acres in the preceding year. This rise is due to far better market rates than prevailed in the previous year.

*Wheat*.—The area under wheat has dropped from 299,013 in 1915-16 to 258,930 in the year under review, but this falling off is only due to the general decrease in the whole area of the *rabi* crop.

*Agricultural conditions*.—The year may be looked on as generally favourable. The monsoon of 1916 was favourable and well distributed, permitting large *barani rabi* areas to be sown. If there had been winter rains the crop would have been a bumper one. As it turned out canal irrigated crops were average to good; *barani* crops poor to average.

Some hail in March did slight damage in the Ludhiana and Bhatinda Divisions; considerably more damage was done by the rain which fell in April and May this year which interfered with harvest operations and damaged grain on the winnowing floors.

The area of failed crops on which water-rates were remitted was only 10,212 acres against 32,603 in the preceding year.

*Interesting facts.*—The period for which the Project Division was sanctioned had to be extended for a year till October 1917. It will be necessary to ask for a further extension of six months.

The necessity for another irrigating Division was recognized, but the scheme is held in abeyance till the cessation of the war owing to additional expenditure involved. The question of extending the area on which perennial should be converted into *kharif* irrigation in order to improve water-logging conditions is under consideration again.

#### UPPER BARI DOAB CANAL.

(SUPERINTENDING ENGINEER—MR. F. W. K. YEOMANN).

1. The expenditure (direct and indirect) on works, excluding Suspense, amounted to Rs. 1,25,769 against Rs. 4,78,600 in Capital account. *Kharif*, 1916. *Rabi*, 1916-17.

Hydro-Electric Installation at Amritsar; and lining the Main Branch Lower with cement plaster.

The sum of Rs 1,25,769 includes Rs. 34,847 on account of expenditure in England. The Suspense account showed a credit balance of Rs. 1,55,923 compared with the credit balance of Rs. 1,30,448 in the previous year.

2. Expenditure amounted to Rs. 1,06,811 against Rs. 1,02,058 in the previous year, and was chiefly incurred on *Extensions and Improvements*. constructing outlets and culverts, Niaz Beg Distributary; remodelling Ghosal and Tarpai Drains; and providing gates and winches for Sathiali Regulator. Besides these a number of other miscellaneous works of an urgent nature and of small magnitude were executed.

3. Expenditure amounted to Rs. 4,63,600 against Rs. 5,36,636 in *Maintenance and repairs*. 1915-16. In addition to the ordinary annual maintenance and repairs expenditure was incurred on the following important items:—Works in the river at the Head Works; shingle clearance from the Main Canal and Feeders; extending boulder pitching in the Main Line and Main Branch Upper and on numerous petty-works.

4. The total output of manufactures during the year amounted to Rs. 2,13,124 (in addition to the cost of munition work) against Rs. 2,61,834 in the previous year. The percentage charges realized on the value of work done amounted to Rs. 67,560 only against Rs. 1,01,581 of the previous year, but, in addition to this, a sum of Rs. 68,968 on account of departmental charges on munition work was credited. The Power Station of the Amritsar Hydro Electric Pumping Scheme was completed. Munition work continued for about nine months of the year and the expenditure on this special work amounted to Rs. 2,35,038 which was transferred to the Railway Board (Munitions).

A considerable amount of work was done for other circles in connection with—

- (i) remodelling Khanki Weir Shutters;
- (ii) fitting the Merala Regulator with standing gear and balanced gates;
- (iii) remodelling the Rasul Regulator, etc.

5. The following table compares the area irrigated during the year with the average of the two previous triennia:—

Area irrigated.  
*Kharif*, 1916.  
*Rabi*, 1916-17.

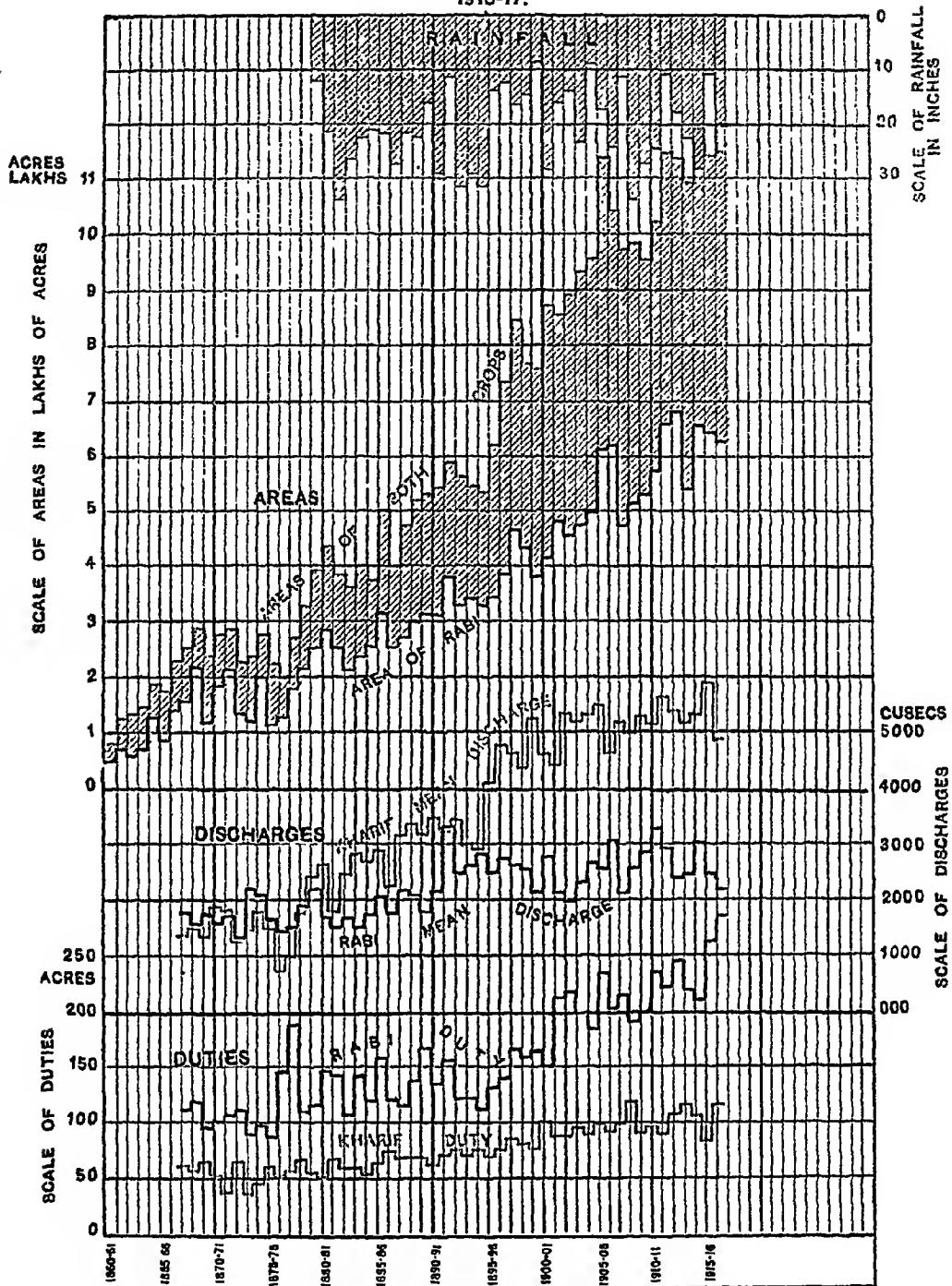
Crop.	AVERAGE OF 3 YEARS ENDING		AREA IRRIGATED DURING 1916-17.
	1912-13.	1915-16.	
<i>Kharif</i>	Acres. 498,702	Acres. 529,653	Acres. 569,406
<i>Rabi</i>	... 622,287	... 623,770	... 631,991
Total	... 1,120,989	... 1,153,453	... 1,201,297



## UPPER BARI DOAB CANAL.

**WORKING RECORD.**

1916-17.



*N. B.—The intercepts in the red area show the Kharif acreage each year.*

The discharges are measured at canal head and are averages for each crop.

The duties are derived from these areas and discharges.

Remarks.—The Kharif duty is fairly uniform and increasing slowly.

The Rabi-duty is more irregular, due to variation in demand, but is increasing recently.

The Rabi supply decreased fairly steadily from 1891-92 to 1902-03, but nevertheless the areas increased owing to higher duty.

The Kharif supply has increased since 1884 very considerably, owing to the capacity of the canal being enlarged.

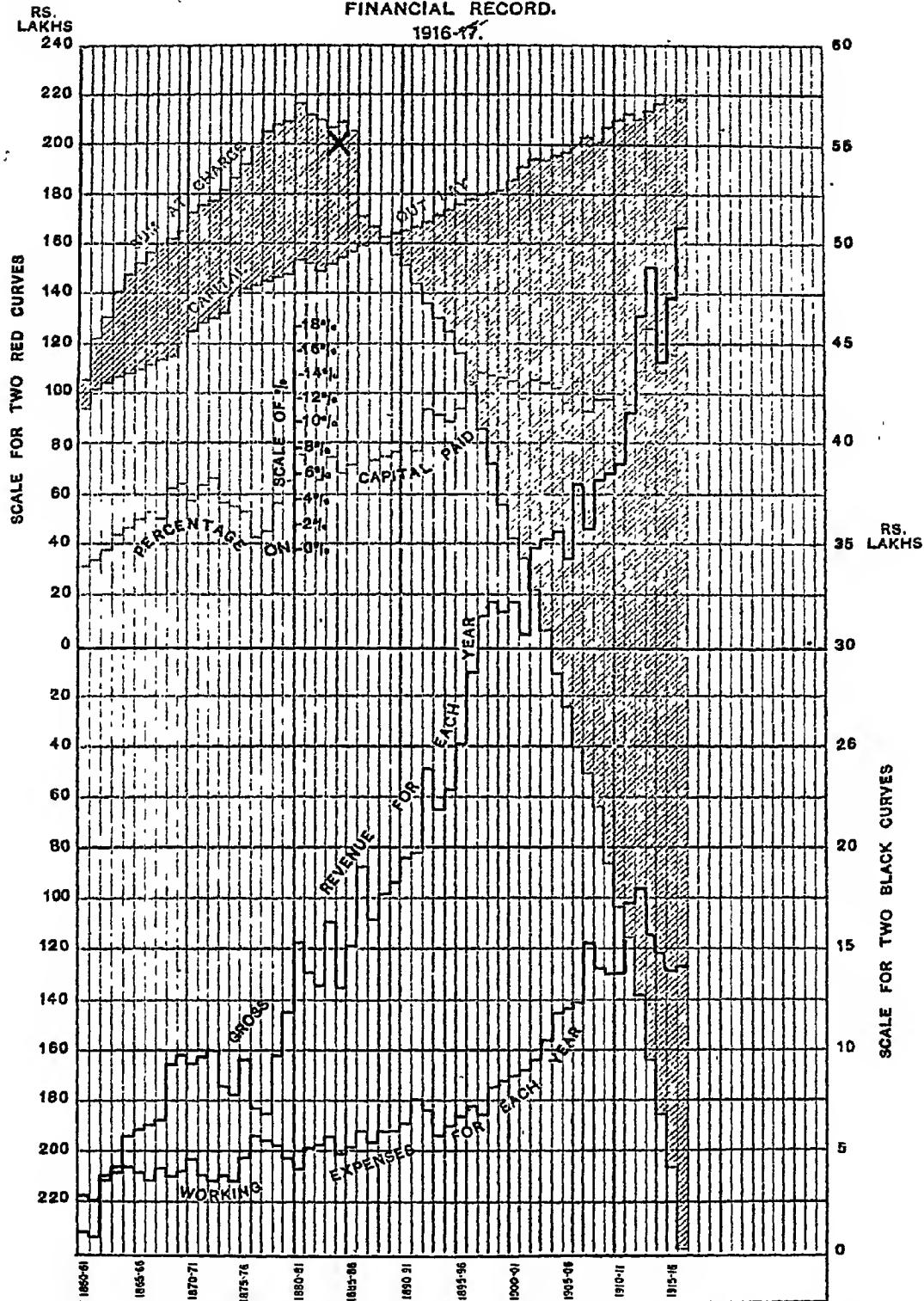
Usually the whole of the river winter supply is taken in for the Rabi crop, but after March and up to September the river supply is in excess of requirements.



## UPPER BARI DOAB CANAL

## FINANCIAL RECORD.

1916-17.



*N. B.*—The intercepts in the red area show arrears of interest unpaid up to end of each year, which being added to the capital give sum at charge. "

The intercepts in the blue area give the accumulated profits. In 1904-05 the whole capital was reimbursed.

No interest is charged for the sums in the red area, so the diagram is rather distorted in this respect.

The intercepts between the black curves give the net income each year.

**Remarks.**—The sudden drop at X is partly due to a write-back of about 90 lakhs, but was continued by the rapid development of irrigation in the lower reaches of the canal. Up to 1888-89 the canal worked at a loss, since then it has been very profitable.

Nature of Seasons and State of Demand and Supply.  
Kharif, 1916.  
Rabi, 1916-17.

6. The mean rainfall is compared with the averages of the previous three years in the following table:—

District.	1916-17.		AVERAGE OF PREVIOUS 3 YEARS ENDING 1915-16.	
	Kharif.	Rabi.	Kharif.	Rabi.
Gurdaspur	28.24	1.34	26.73	7.02
Amritsar	27.56	0.39	17.14	5.49
Lahore	21.89	0.73	12.87	4.09

The monsoon of 1916 was, on the whole, a very favourable one. Rain was general during June, July, August and September, and was particularly heavy during July and August when rain was recorded on 15 and 18 days, respectively, at Madhopur.

A short break occurred from 1st to 17th September, but after that rain continued up to 5th October when the monsoon ended.

From 6th October to the end of March there was no rain except for isolated showers of small amounts during January and March, and the failure of the winter rains put a very great strain upon the canal, more especially as the river supply was abnormally low. However, in spite of the extremely unfavourable conditions, the large rabi area was matured without any unusual remissions having to be given.

7. The net income (direct and indirect) amounted to Rs. 37,89,738, equivalent to 17.35 per cent. on the capital invested against 15.29 per cent. of the previous year.

Rabi, 1915-16.  
Kharif, 1916.

The uncollected balance of occupiers' rate was Rs. 15,912 against Rs. 14,975 at the end of the previous year. Remissions of water-rate amounted to Rs. 1,02,704 against Rs. 84,219 in the previous year. The area for which remissions were granted was 29,076 acres compared with 22,859 acres in 1915-16.

8. (a) *Duty.*—The average duty secured on the supply utilized was 117 acres in kharif and 285 acres in rabi as against 83 and 263, respectively, in the previous year.

General Remarks.

Owing to the failure of the winter rains no extended closure for repairs was possible, but on account of heavy rainfall the canal was closed at the Head from 15th to 28th July.

(b) *Principal crops.*—The principal crops grown during the year are compared in the following table with those grown in the previous year:—

Name of crop.	1916-16.	1916-17.
	Acres.	Acres.
Wheat	241,185	248,539
Barley	6,231	5,375
Rice	72,740	60,853
Maize	88,517	74,569
Millets	45,007	137,379
Cotton	88,290	147,021
Sugarcane	29,501	42,465

\*Includes choti which was not the case last year.

The increase under cotton is noteworthy as it seems to show that the cultivators were eager to take advantage of the high market rates prevailing.

(c) *Agricultural conditions.*—The monsoon of 1916 was extremely favourable and continued up to an unusually late date. Had it not been for this the total failure of the winter rains would have had a much more serious effect upon the agricultural conditions.

Scarcity of water during the *rabi* months prevented the straw growing to its normal length and the outturn of *bhusa* was thus very short, and the untimely rain which fell in April 1917 interfered with harvesting and damaged the grain to some extent.

(d) *Contemplated new works.*—Remodelling Head Works (outlet).

In eight out of twelve bays the old gates were replaced by quick-lifting gates obtained from Messrs. Ransome and Rapier in England and in the remaining four bays similar new gates will be fitted during the next cold weather. The new gates are working very satisfactorily. Four bays of the inlet out of 23 have been fitted with radial arm gates, and it is hoped to provide this type of gate throughout the inlet as soon as materials can be obtained at reasonable rates.

#### LOWER BARI DOAB CANAL.

(SUPERINTENDING ENGINEER, MR. R. CANNELL).

1. The expenditure (direct and indirect) was Rs. 7,92,271 which raised

Capital account.  
Kharif, 1916.  
Rabi, 1916-17.  
the total amount debited to the Project at the end of the year to Rs. 2,18,74,263 against the Revised Project Estimate of Rs. 2,20,28,402.

The above expenditure includes a temporary debit of Rs. 11,46,636 spent on the construction of water-courses pending recovery from the colonists.

The Revised Project Estimate was closed at the end of the year under review with a saving of Rs. 13,00,715 including the amount to be recovered from colonists.

The expenditure was incurred chiefly on the following works:—

(a) *Head Works.*—Painting ironwork of the Balloki Level Crossing; determining values for the Ravi sand at Balloki to ascertain the limiting safe hydraulic gradient of the barrage; strengthening the Balloki Weir glacis at a cost of Rs. 1,56,451; fixing pressure and relief pipes, for observations, in the new floor; and repairing the stone apron downstream of the weir opposite Bays 1 to 4.

(b) *River Training Works.*—Including necessary maintenance and repairs to embankments and spurs and a plan-table survey of the river Ravi above and below the barrage.

(c) *K-Buildings.*—Some quarters for zilladars were completed and the construction of others was held in abeyance owing to stringency of funds due to the war. Superintending Engineer's house and office at Montgomery were completed: also the Nathuwala rest-house. A double set of signallers' quarters (permanent) was constructed at Balloki.

(d) *Plantation.*—Plantation operations were carried out on a small scale only, as expenditure is restricted, avenues were extended and these in existence carefully maintained.

(e) *Distributaries.*—Construction of distributaries 1-L, 2-L, and 8-AR was commenced during the year. 1-L was completed, and the channel excavation of 2-L one-third completed. The project and designs for 8-R were sanctioned.

(f) *Water-courses.*—During the year the construction of water-courses was completed on allotted areas, and in some cases, in advance of colonization.

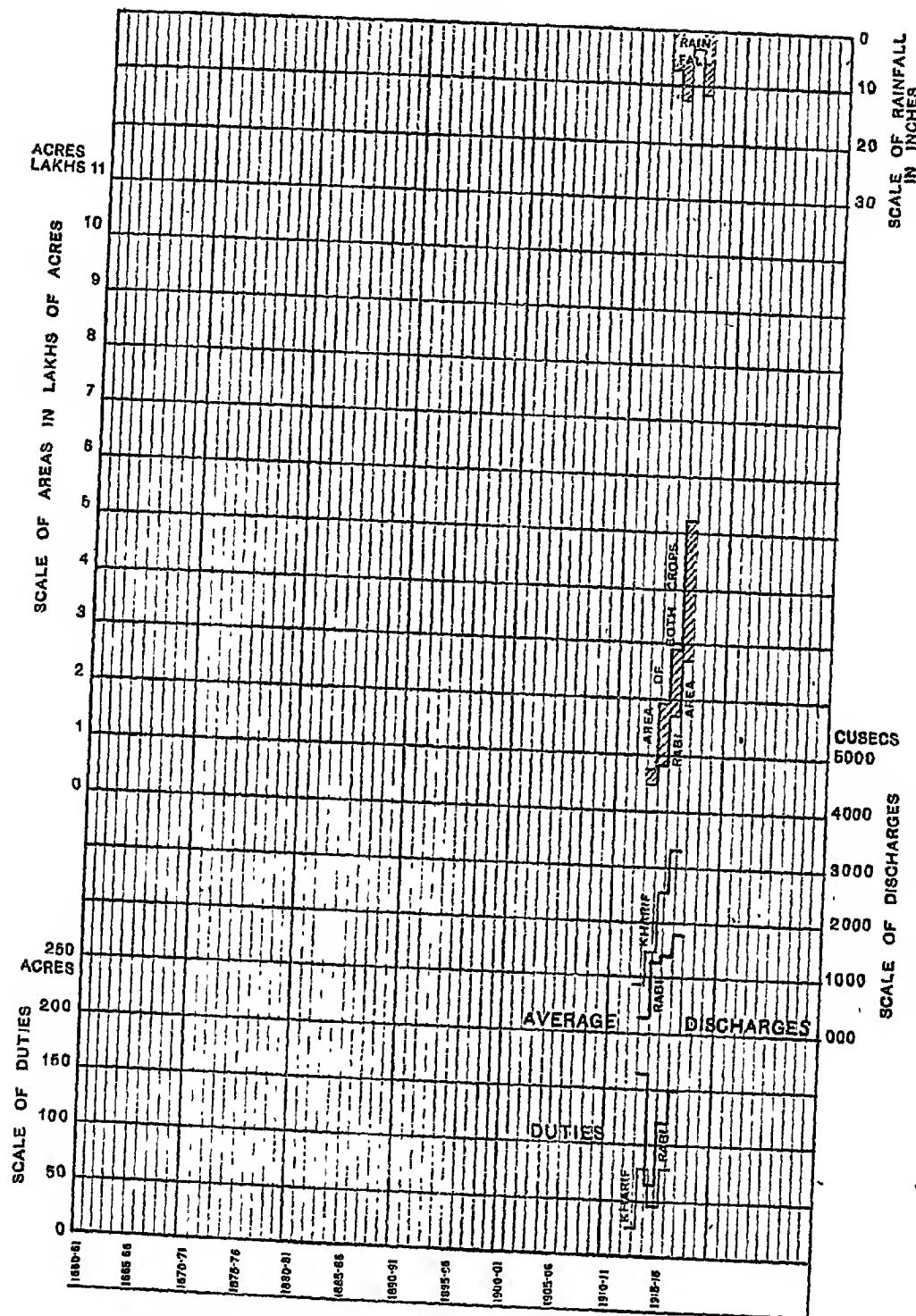
Extensions and Improvements. 2. An expenditure of Rs. 8,961 was incurred on different petty works.

3. An expenditure of Rs. 3,59,646 was incurred on ordinary maintenance of channels, masonry works and buildings, the process of stauching and consolidating new banks and the encouragement of berm formations were continued zealously.



LOWER BARI DOAB CANAL.  
WORKING RECORD.

1916-17



*N.B.:*—The intercepts in the red area show the Kharif acreage each year.

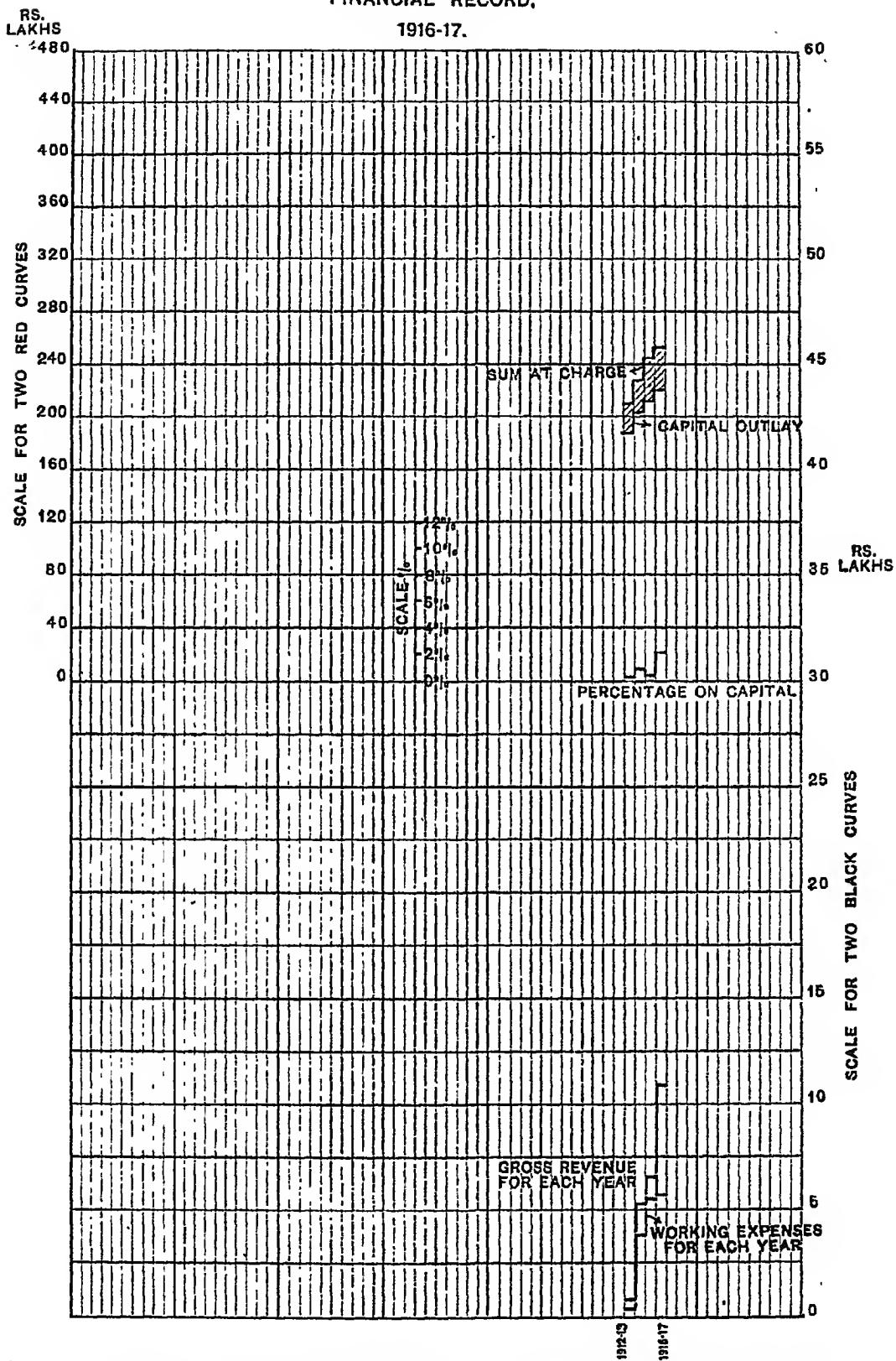
The discharges are measured at canal head and are averages for each crop.  
The duties are derived from these areas and discharges.



# LOWER BARI DOAB CANAL.

## FINANCIAL RECORD.

1916-17.



*N. B.*—The intercepts in the red area show arrears of interest unpaid up to end of each year, which being added to the capital give sum at charge.

The intercepts between the black curves give the net income each year.

Generally, there were very few breaches, and nowhere was the supply of water restricted and short on account of inefficient channel maintenance.

4. The canal flowed for 343 days (*viz.*, 171 days during *kharif* and 172 days during *rabi*) against 264 days during the previous year. The demand for canal water was good during the *kharif* and very keen in *rabi*.

Nature of Seasons and state of Demand and Supply :  
*Kharif*, 1916.  
*Rabi*, 1916-17.

The rivers in the winter were very low and the water during the *rabi* had to be distributed under a fixed rotational system throughout. Although the Upper Jhelum Canal supplies improved during the winter yet they were still short of full design and, in order to avoid harassment due to the shortage of water, a scheme for water distribution had to be worked out. The winter river supplies proved to be the minimum on record and a shortage was felt.

Rainfall was abnormal during *kharif* 1916 and scanty during *rabi* 1916-17. The rainfall is compared below with the average of the previous year:—

	1916-17.		1915-16.
Lahore	...	...	18.42"
Montgomery	...	...	4.27"
Multan	...	...	4.19"
		5.46"	2.35"

5. The following table compares the areas irrigated with those of the previous year:—

Area Irrigated.

District.	1915-16.			1916-17.		
	<i>Kharif.</i>	<i>Rabi.</i>	Total.	<i>Kharif.</i>	<i>Rabi.</i>	Total.
Lahore	...	1,468	1,538	3,056	2,211	1,941
Montgomery	...	92,370	131,006	226,376	181,016	106,911
Multan	...	21,136	32,726	53,862	62,186	67,641
Total	...	111,974	168,820	283,294	248,113	206,493
						514,936

Compared with the Project the total area irrigated shows a falling off of 135,064 acres. This was to be expected as the Upper Jhelum Canal, on which the working of this canal is dependent, was opened a year later than it was anticipated in the Project and was not able to carry the full supply intended,—*vide* paragraph 4 above. The abnormally low supply in the rivers and absence of winter rainfall were also the reasons which led to this shortage in irrigation.

6. The gross receipts (direct and indirect) amounted to Rs. 9,64,893 and the working expenses to Rs. 6,26,356, resulting in a net saving of Rs. 3,38,537.

Financial results based on collection :  
*Kharif*, 1915-16.  
*Kharif*, 1916.

7. During the year the Tulamba Sub-Division was constituted in the Khanewal Division for the construction of S-K and S-AR distributaries.

General Remarks.

The staff of the Montgomery and Okara Divisions were engaged in developing new channels and maintaining a supply of water, necessary for the growth of irrigation. The principal work in the Balloki Division was that of thickening the glacis of the woir at a cost of Rs. 1,65,000. The work was completed satisfactorily.

The Gugera Branch, as a combined *kharif* and perennial channel, was not working satisfactorily and the question of converting it into a perennial channel was under consideration.

Proprietary lands have been broken up and are being irrigated. The available *culturable Crown waste* lands after deducting bad lands, "ghair-mum-

kin," etc., and the total areas of Crown waste land allotted at the beginning and end of the year are given below:—

Canal Division.	CROWN WASTE LANDS, IN ACRES.		
	Culturable area:	Allotted to 1st April 1916.	Allotted to 31st March 1917.
Balloki ... ...	Acres.	Acres.	Acres.
Okara ... ...	280,792	176,036	191,579
Montgomery ... ...	380,407	140,167	293,873
Khanewal ... ...	307,428	98,412	225,942
Total ... ...	927,622	423,615	656,394

A large area of Crown waste lands of good culturable quality remains to be allotted, and it is necessary for quick development to give them out on temporary leases if not on permanent.

The headquarters of the Circle Office and its staff were moved from Lahore to Montgomery in October 1916.

#### UPPER CHENAB CANAL.

(SUPERINTENDING ENGINEER—MR. N. WHITE.)

1. The construction estimate was closed on 31st March 1917 with an expenditure of Rs. 3,53,42,184 (direct and indirect) including Rs. 8,25,000 transferred to the Upper Jhelum Canal Project, against the Revised Project estimate of Rs. 3,65,32,024.

The expenditure during the year amounted to Rs. 8,40,591 and was chiefly incurred in carrying on the construction of the Raya and Nokhar Branch systems; the distributaries on these are now nearly complete; only a few minor channels remain; also in completing the Dog Diversion Channel and on purchasing cast-iron pipes for outlets and on bridges, buildings and embankments.

2. The only important work carried out was an extension of one of the river weir groynes at Marala; this groyne was extended downstream to break up a cross current that had set up along the face of the weir; the work, commenced last year, has since been completed and found successful.

The total expenditure was Rs. 25,803 out of which Rs. 21,602 were spent on the above work.

3. The expenditure of Rs. 4,65,154 was about 20 per cent. in excess of the previous year, due partly to opening up of new channels and partly to the strengthening of the new banks of the main canal to cope with the higher supplies required by the expansion of irrigation on this and the Lower Bari Doab Canals.

4. The following statement compares the rainfall with the previous years:

Nature of Seasons and state of Demand and Supply.

District.	1912-13.		1913-14.		1914-15.		1915-16.		1916-17.	
	Kharif.	Rabi.								
Sialkot ...	14.0	2.9	19.0	2.9	25.0	7.7	8.6	1.7	29.46	0.72
Gujranwala ...	11.7	2.4	15.2	2.4	20.0	5.1	4.2	0.9	24.35	1.24

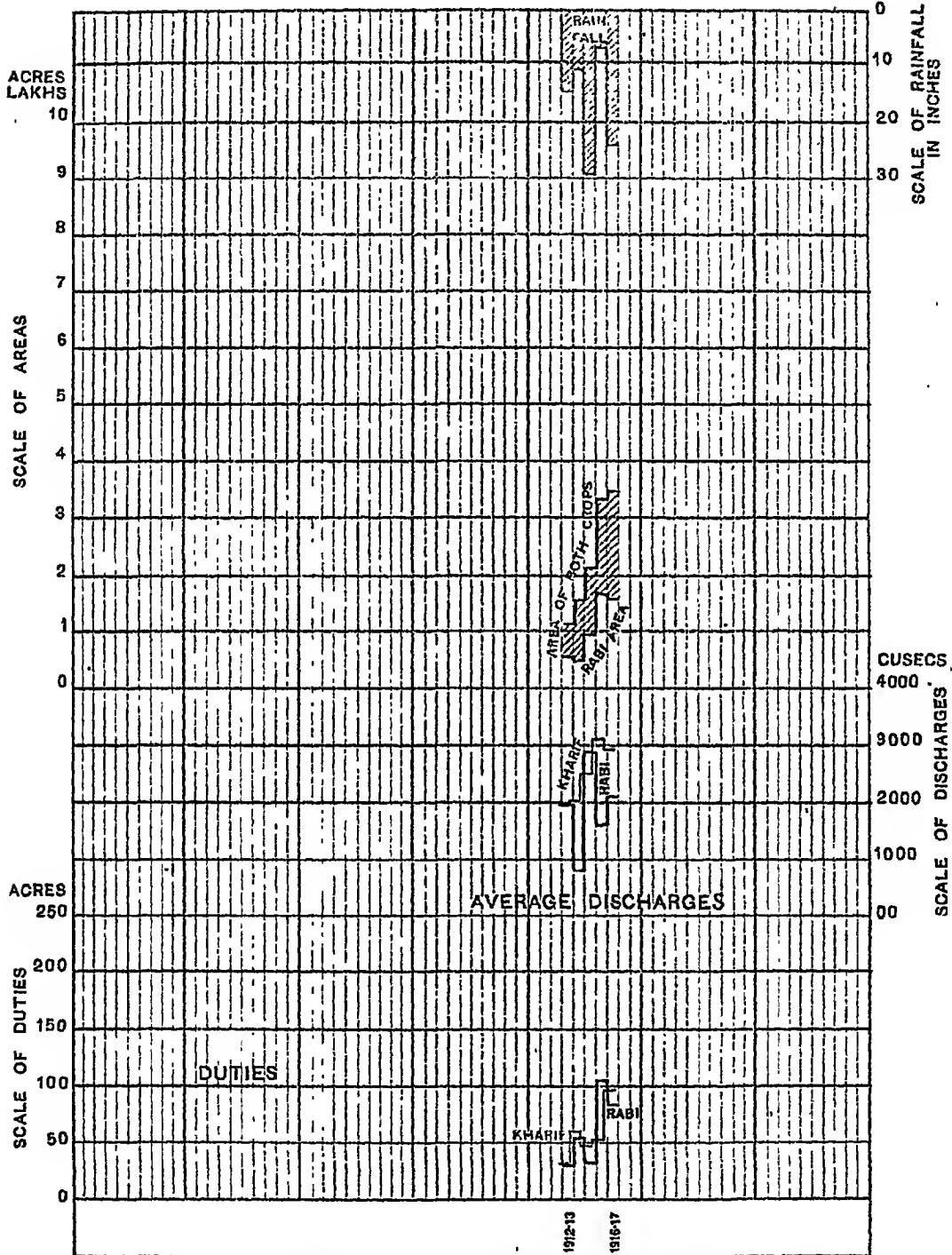
The monsoon was above normal and the *kharif* crops very fair, but the winter season was again abnormally dry and the river supplies again unusually low; great difficulty was consequently experienced in maturing the *rabi* crops and 9 per cent. failed.



## UPPER CHENAB CANAL.

**WORKING RECORD.**

1916-17.



*N.B.*—The intercepts in red area give the Kharif irrigation each year. The discharge are measured at Merala the head of canal and give averages for each crop.

The duties are derived from these areas and discharges.



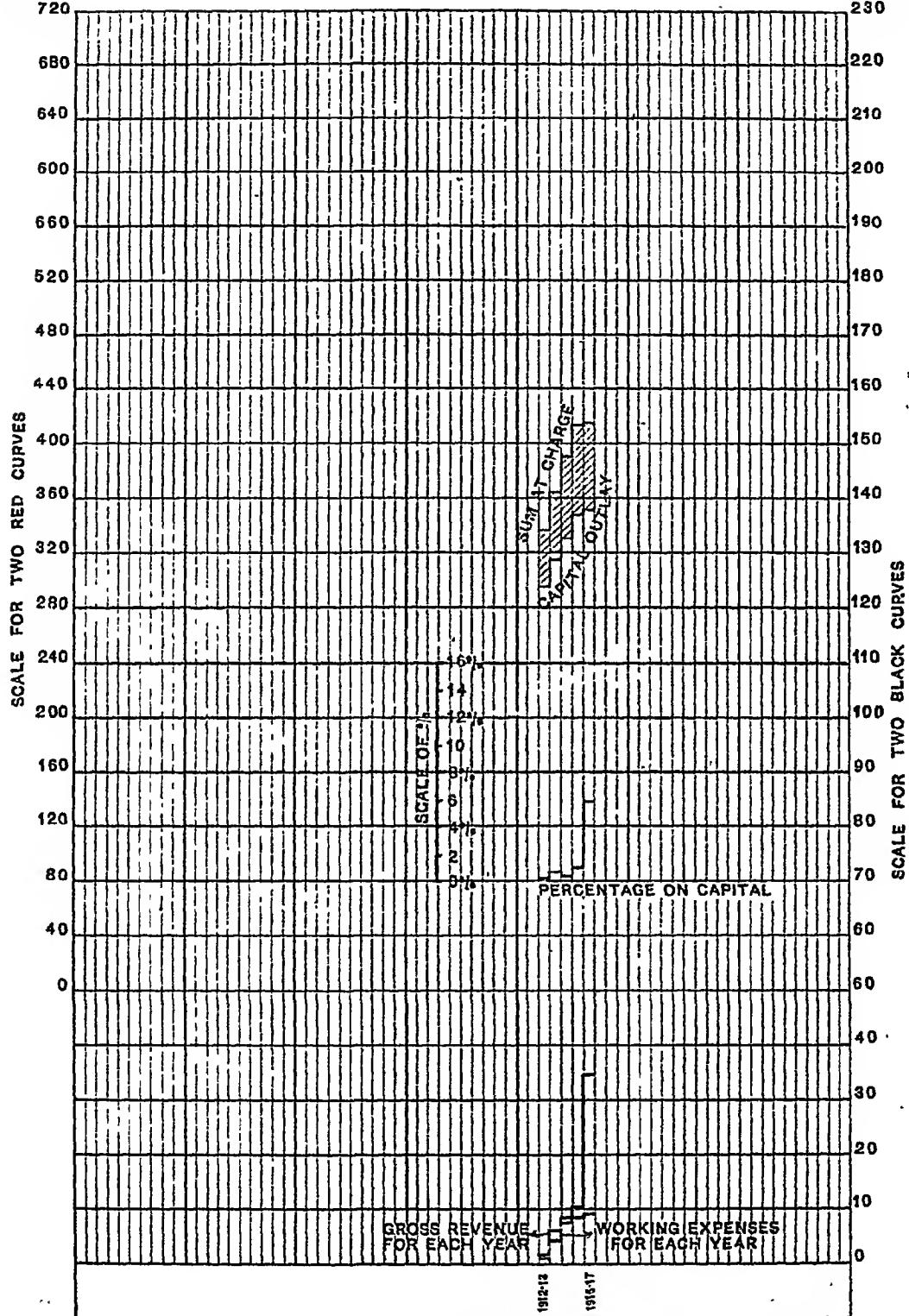
# UPPER CHENAB CANAL.

## FINANCIAL RECORD.

RS.  
LAKHS

1916-17.

RS.  
LAKHS



*N. B.*—The intercepts in the red area show arrears of interest which, added to the capital, give the sum at charge.

The intercepts between the black curves give the net income each year.

Construction commenced in 1905 and the canal was opened in 1912.

5. The area irrigated compares with the figures for the preceding years :—

Area irrigated :  
Kharif, 1916.  
Rabi, 1916-17.

Years.	Kharif.	Rabi.	Total.
1912-13 ...	62,691	53,471	116,162
1913-14 ...	123,882	40,228	164,110
1914-15 ...	121,189	90,693	211,882
1915-16 ...	159,152	165,010	325,062
1916-17 ...	285,917	151,560	437,477

The increase in the *kharif* area is remarkable but the *rabi* area, on the other hand, has dropped slightly ; this is entirely due to the failure of the winter rains and the low river supply.

6. The gross receipts, working expenses and net revenue are given

Financial results based on Collections :  
Rabi, 1915-16.  
Kharif, 1916.

below and compared with the previous three years :—

Years.	REVENUE.			Working expenses.	Net Revenue.		
	Direct.	Indirect.	Total.				
1913-14 ...	5,53,366	5,903	5,59,269	4,03,077	1,56,192		
1914-15 ...	6,21,061	2,01,762	8,25,826	7,75,292	50,534		
1915-16 ...	9,32,256	61,077	10,17,333	8,33,808	1,83,525		
1916-17 ...	23,08,678	2,51,372	25,63,550	8,38,261	17,25,286		

The total receipts anticipated in the Project forecast amounted to Rs. 28,53,145 (direct Rs. 20,89,529 and indirect Rs. 7,53,616). Actual direct receipts exceed the forecast. The indirect are short because the system of indirect credits on this canal has not been fully settled ; the question is complicated and is under consideration.

7. The Deg Nallah was active during the monsoon, but the Deg Diversion

General remarks.

embankment was maintained intact although the flood water reached as high a level as in 1914 ;

the diversion channel has scoured satisfactorily and the possibility of damage by floods thereby reduced.

#### LOWER CHENAB CANAL.

(SUPERINTENDING ENGINEER—Mr. F. T. BATES.)

1. The expenditure (direct and indirect) amounted to Rs. 5,58,238,

Capital account :  
Kharif, 1916.  
Rabi, 1916-17.

bringing the total outlay to date to Rs. 3,23,55,018. The expenditure incurred was mainly on the following works :—Water-proofing the Jhang

Branch Upper ; constructing a Regulator in the Jhang Branch Upper near Kot Khudayar for improving command in certain distributary channels ; raising the crest of the Khanki Weir for improving command of the silt conditions at Khanki ; and constructing main and subsidiary revetments at the head of the Pilkhu Spur at Khanki for improving river approach to the Canal.

2. The expenditure amounted to Rs. 5,29,113 and was mainly incurred

Extensions and Improvements.

in the improvement of the right bank river defence works ; the construction of seepage drains for

the prevention of water-logging in the Hafizabad Talsil and in the replacing of the old type of masonry outlets by modules for the rateable distribution of water.

Maintenance and Repairs.

3. Expenditure was Rs. 8,79,613 against Rs. 9,95,947 in the previous year.

Nature of Seasons and state of Demand  
and Supply :  
*Kharif, 1916.*  
*Rabi, 1916-17.*

4. In the *kharif* owing to good general rainfall the demand throughout was moderate and canal supply adequate.

In the *rabi* the rainfall was insignificant causing low river and a keen demand for irrigation.

*Rainfall.*—The following is the record of rainfall during the year compared with that of the three previous years :—

Mean for				Lyallpur District.	Jhang District.	Gujranwala District.
				Inches.	Inches.	Inches.
<i>Kharif, 1916</i>	...	...	...	11.67	8.99	20.18
<i>Rabi, 1916-17</i>	...	...	...	0.77	0.63	0.93
		Total	...	12.44	9.62	21.61
1915-16	...	...	...	2.28	2.92	5.15
1914-15	...	...	...	18.63	13.89	20.73
1913-14	...	...	...	32.34	12.40	17.87

The rainfall in *rabi* is insignificant.

5. The following table compares the irrigation with the averages of the three previous triennia :—

Crop.	AVERAGE OF THE 3 YEARS ENDING		Irrigation of 1916-17.
	1912-13.	1915-16.	
	Acres.	Acres.	Acres.
<i>Kharif</i>	706,323	694,635	715,270
<i>Rabi</i>	1,556,040	1,585,095	1,571,459
Total	2,263,362	2,280,630	2,286,729

Compared with the figures for 1915-16 the area irrigated showed an increase of 2,650 acres. The *kharif* area was more by 63,128 acres while the *rabi* figures were less by 60,478 acres. The *kharif* area was the third highest on record and the *rabi* area the fourth highest.

The total area irrigated—2,286,729 acres—consists of 395,678 acres in old villages and 1,891,051 acres in Colony villages.

6. The net revenue amounted to Rs. 1,41,10,320 (direct and indirect) equivalent to a return of 43.61 per cent. on the Capital Outlay of Rs. 3,23,55,018 incurred to the end of the year.

In the previous year the figures of net revenue and percentage on Capital were Rs. 1,26,50,247 and 39.78, respectively.

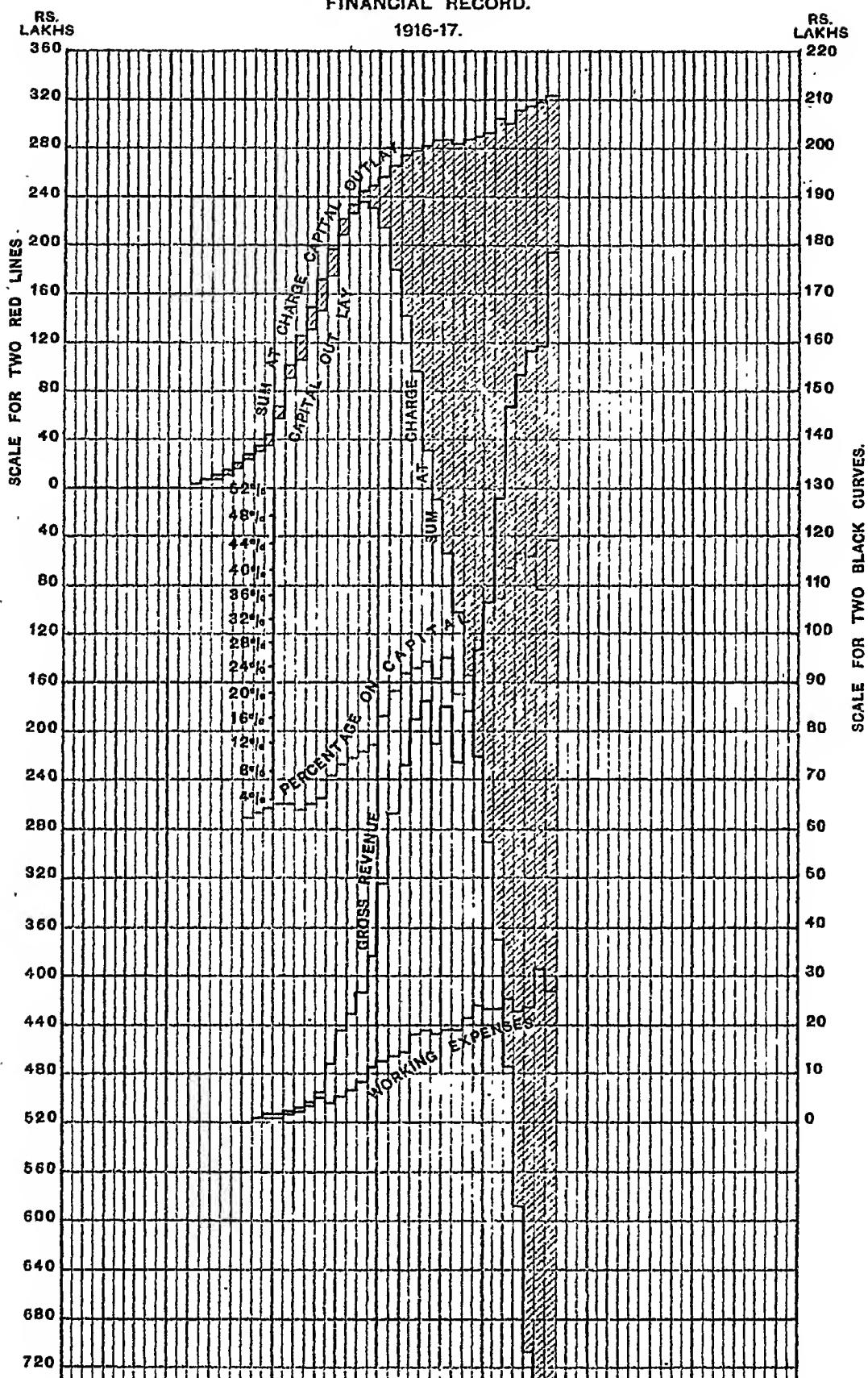
The increase in net revenue in 1916-17 was due to an increase in the area matured in *kharif* 1916 and the record area of *rabi* 1915-16, the assessment on which was realized during 1916-17.

The accumulated net profits have increased from Rs. 11,40,60,690 to Rs 12,71,39,012 against a capital of Rs. 3,23,55,018 invested at the close of the year.

# LOWER CHENAB CANAL.

## FINANCIAL RECORD.

1916-17.



The discharges are measured at canal head and give averages for each crop.

The duties are derived from these areas and discharges.

The Rabi winter supply is comparatively high and reliable on this canal.

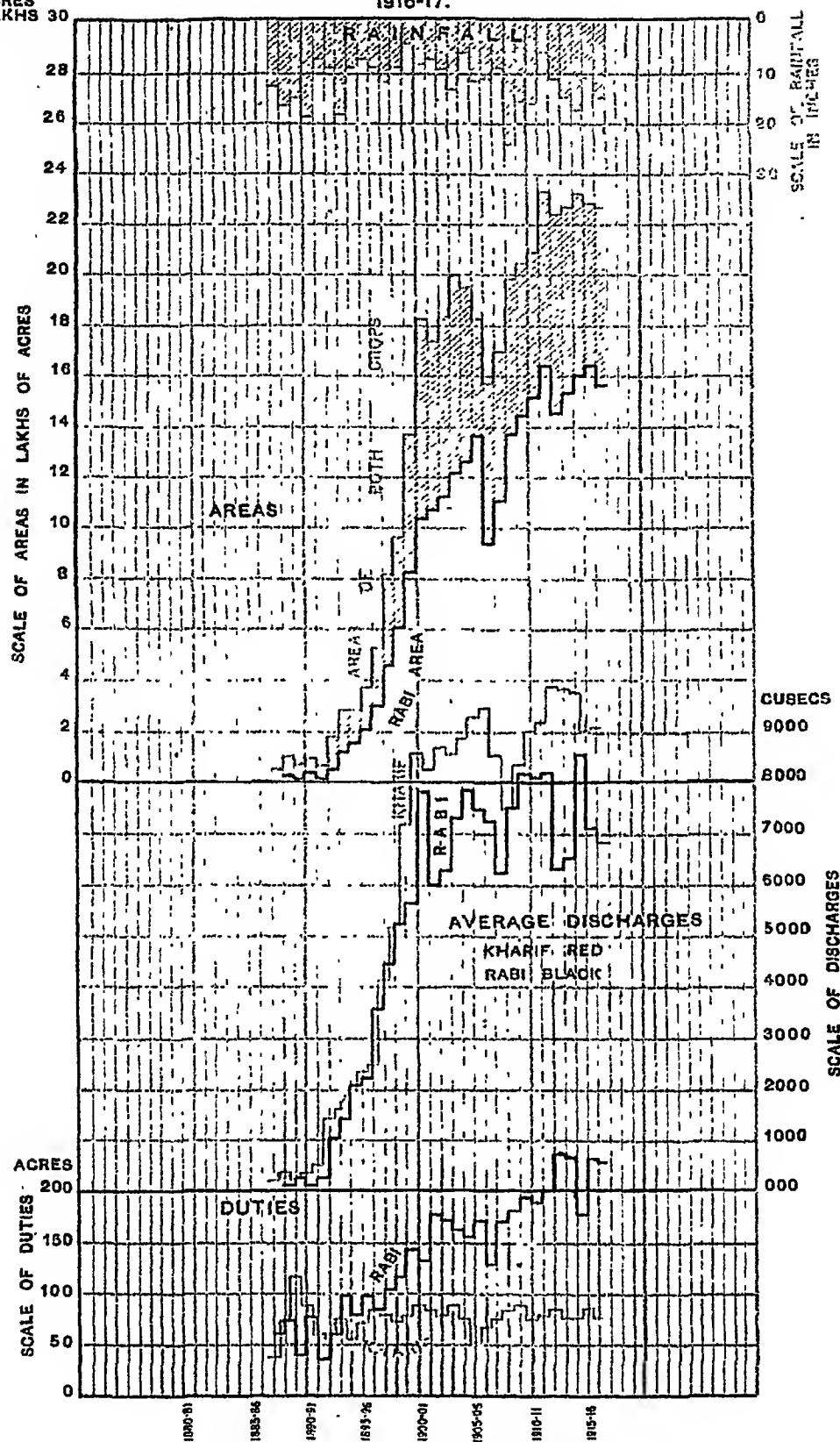


# LOWER CHENAB CANAL.

WORKING RECORD.

1916-17.

ACRES  
LAKHS 30



*N.B.*—The intercepts in the red area show the Kharif acreage each year.

The discharges are measured at canal head and give averages for each crop.

The duties are derived from these areas and discharges.

The Rabi winter supply is comparatively high and reliable on this canal.



7. The canal was closed for 44 days (36 days in *kharif* and only 8 days in *rabi*), so that it ran for 321 days during the year (147 days during *kharif* and 174 days during *rabi*).

General remarks. The weather and the insufficient supply in the river gave no opportunity for a closure at canal head during the cold weather. The 10 days closures in May, July and August were ordered for the purpose of scouring out the flume upstream of head regulator as a preventive to silting in the canal. This practice, however, involves an economic loss of water, and a loss of irrigating efficiency, besides being a somewhat ineffective procedure. It has since been realized that in order to exclude from the canal excessive charges of travelling silt, it is necessary to keep the river bed in front of the canal head automatically scoured to a low level; that this state of affairs can only be secured by the maintenance of a certain minimum afflux through the weir-slides; and that this, again, can only be ensured by raising the crest of the weir. The crest of the weir was raised by two feet in five out of its eight bays (having previously been raised by two feet in the other three bays in the year 1911-12) during the winter of 1916-17, but it is probable that further elevation will be found necessary in the near future in order to complete the design on sound hydraulic principles.

The area remitted amounted to 3,145 acres during *kharif* and 63,110 acres during *rabi*, giving percentages of 0.41 and 4.01, respectively, on the area irrigated. Out of 63,110 acres remitted during *rabi* 31,301 were attributed to short supply of water in the river and 22,747 acres to the extensive damage done by hail to the wheat and gram crops in the Lyallpur and Jhang Districts.

The duty earned by the canal was 79 acres in *kharif* and 230 acres in *rabi* as against 73 and 230 acres in the previous year. The distribution of the waters of the Jhelum and Chenab Rivers equitably between the canals dependent thereon was in force for the first time during the *rabi* of 1916-17. The method of rotational turns adopted was, on the whole, fair, but experience has indicated modifications which will be tried next winter. This question of distributing small uncertain quantities of water over thousands of square miles of country is a difficult one and success can only be attained in the light of experience.

The problem of ensuring a ratable distribution of water in such a way as to place all irrigators on an equal footing and thus to distribute the shortage of winter supply over so large an area as to make it imperceptible in any individual holding is receiving careful consideration.

The steps taken to prevent the increase of water-logging in the Hafizabad Tahsil have been attended with much success, large areas have been reclaimed and considerable areas have been safeguarded against harm from this source.

#### UPPER JHELUM CANAL.

(SUPERINTENDING ENGINEER—MR. H. W. M. IVES.)

1. This year, the thirteenth since construction began, brought the project estimate to a close with a total expenditure of Capital account: Rs. 4,38,49,947, debited against it at end of the *Kharif*, 1916. *Rabi*, 1916-17. The expenditure during the year amounted to Rs. 14,88,828. The removal of the foreshore

above the Mangla Regulator was the chief work in the winter of 1916. With an abnormally low river progress on the foreshore was considerable and it would have been completed altogether but for a rise in the river at the end of March which prevented the clearance of part of the foreshore on the right side down to the 57 level. Thus what remains to be cleared of the foreshore consists of No. 3 Tunnel on the right and its girders with a few isolated reefs in this vicinity. Towards the centre and left the clearance was very thorough and all was cleared down to 57'00 level. During the year 6 $\frac{1}{2}$  lakhs c.ft. of rock and wet material was removed from the foreshore. Two excavation done in the Mangla Cut was nearly 48 lakhs c.ft. chiefly in rock and clay stone in the head reach, and to a large extent consisting of the removal of the big slip that occurred in August 1915, which was noticed in the last year's report.

Several of the distributaries on the main line and Gujrat Branch were completed.

The training works at the tail of the canal where they are connected with those upstream of the Khanki Head Works (Lower Chenab Canal) on the right bank of the Chenab river were completed. The very necessary weir across the Bhimber Diversion Channel was sanctioned and three-fourths completed.

2. The expenditure of Rs. 44,899 was incurred chiefly on providing release gear for dropping the Canal gates at Suketar I and II and Jabba ; raising crests of undersluices at Suketar I and II and Jabba ; Mangla Cut, part E ; approach and patrol roads in the Mangla Division, protection below tail fall at R. D. 418,500 feet, main line ; fixing mattress in the bed of Bhimber Diversion, and petty works in connection with improvements at Mangla.

3. Expenditure of Rs. 418,781 was incurred on the maintenance and watching of canal banks, strengthening weak reaches, maintenance of buildings, Canal drains and plantation, protection downstream of Suketar II and Jabba level crossings, and revetment of the canal in front of the Mangla Regulator.

4. The following table compares the figures of rainfall with the average of the last seven years :—

*Nature of Season and state of Demand and Supply.*  
Kharif, 1916.  
Rabi, 1916-17.

Station.	1916-17.			Average.	
	Inches.			Inches.	
Mangla	39.05			24.30	
Pauranwala	35.00			12.10	
Dinga	29.12			15.18	
Kirariwala	28.10			9.30	
Mand	20.65			7.40	

There was heavy rainfall during *kharif* but no winter rains.

This was the first year of irrigation from this canal. The canal supply reached five-eighths of its maximum discharge during the year. A large new canal with high embankments requires a cautious increase of supply. With small periodical increments the formation of berms kept pace with the increase in supply and strengthened the banks.

This year was also the first during which the waters of three rivers (Jhelum, Chenab and Ravi) were distributed amongst the connected canals (Upper Jholum, Lower Jhelum, Upper Chenab, Lower Chenab and Lower Bari Doab Canals) by rotational turns. The rotation programme was arranged by Chief Engineer after consultation with the Superintending Engineers of the canals concerned.

*Area irrigated.*  
Kharif, 1916.  
Rabi, 1916-17.

5. The irrigation effected was :—

	AREA IRRIGATED.			AREA ASSESSED.		
	Kharif.	Rabi	Total.	Kharif.	Rabi.	Total.
Main Line	13,699	19,607	33,306	13,502	19,007	32,509
Gujrat Branch	28,714	55,585	84,299	28,510	53,172	81,682
Total	42,413	75,192	117,605	42,012	72,179	114,191

The development of irrigation has not been as rapid as was anticipated in the Project forecast. It was expected that an area of 245,000 acres would be irrigated in 1916-17, but this expectation was not realized chiefly because irrigation commenced a year later than was anticipated. The heavy rainfall during *kharif* and an abnormally low river during *rabi* which necessitated long closures on new channels due to the introduction of rotational canal turns also contributed towards the failure to reach the forecast.

6. The gross income from all sources amounted to Rs. 83,631 and the working expenses to Rs. 6,40,795, resulting in a loss of Rs. 5,57,164 or 1.27 per cent. on the capital invested. This is attributable to the fact that this was the first irrigation year on this canal and the water rates were collected for *kharif* crop only. The working expenses were also heavy and this was to be expected on the new canal which needed larger expenditure on stauching and consolidating the banks of the canals and its distributives in the early days of irrigation in order to admit of the required supply of water being run without causing any damage to banks. It should be noted, however, that the Upper Jhelum Canal is part of the triple canals and that the expenditure incurred on it is mostly on behalf of the other two units and therefore the percentage of profit based on local income, working expenses and capital expenditure is not a fair indication of the utility of the Upper Jhelum Canal.

7 (a) Most of the tramway material made available for sale or transfer, due to completion of works, was sent to Mesopotamia and a fair proportion of surplus plant was also disposed of during the year.

(b) Special arrangements made for dealing with the timber traffic down the Jhelum river enabled the raftsmen to get all their timber down, in spite of the abnormally low river, and in all some 127,000 sleepers were taken out at Changar and removed later by the Canal Railway.

(c) The names of the Divisions on this Canal were changed from I, III, IV and V to Maugla, Jhelum, Phalia and Gujrat Divisions, respectively.

#### LOWER JHELUM CANAL.

(SUPERINTENDING ENGINEER—MR. W. P. SANGSTER, C.I.E.)

1. The expenditure (direct and indirect) amounted to Rs. 27,399, but Capital account : the recovery of Rs. 2,140 from cultivators on *Kharif*, 1916. account of acreage rate, and a credit of Rs. 35,706 under the suspense account (stock issues to works) and receipts of Rs. 22,147 on capital account, reduced it to a minus figure of Rs. 32,594. This brought the total outlay to the end of the year to Rs. 1,59,33,163. The expenditure was incurred chiefly on Superintending Engineer's office and quarters at Sargohla, and the remodelling of the Mithalak distributary.

2. Expenditure amounting to Rs. 72,463 was incurred chiefly on constructing a combined water-course for the *Extensions and Improvements*. Civil Station and the Government Engineering School at Rasul; remodelling two bays of the Head Regulator at Rasul; obtaining gates for the Mona Distributary; providing caissons for remodelling the Head Regulator; and raising a girder skew bridge on the North-Western Railway over the Mithalak distributary.

3. Expenditure to the extent of Rs. 2,94,635 was incurred on the *Maintenance and Repairs*. annual maintenance of channels, masonry works, buildings; and on repairs to Bay No. 7 downstream floor and talus of Bay No. 2, Rasul Weir; filling up scour holes below the undersluices; stone filling at Groynes Nos. 6 and 7 upstream of the weir; levelling 30 feet of the stone berm below the weir; and repairs to Groyne No. 7 upstream of Rasul Weir.

Nature of Seasons and state of Demand  
and Supply:  
Kharif, 1916.  
Rabi, 1916-17

4. The rainfall during the year was as follows as compared with that of the previous three years:—

District.	Season.	YEAR			
		1913-14.	1914-15.	1915-16.	1916-17.
Shahpur	Kharif	12.84	17.02	8.96	14.36
	Rabi	8.23	4.22	0.36	1.78
Total	...	16.07	11.24	4.32	16.11
	Kharif	18.56	12.40	1.98	9.77
Jhang	Rabi	3.09	2.33	0.38	0.65
	...	16.75	16.33	2.34	10.65

The rainfall was above the average during *kharif* and below the average during the *rabi*. No rain fell between first week in October and last week in March, except a small quantity near the head of the canal. On April 10th there occurred at the tail of the canal, a hailstorm of exceptional severity which affected about 20 small villages, necessitating the giving of half remissions to above 1,400 acres. During *kharif* canal water was ample and there were no insect pests or other calamities. The area sown was above the normal and the yield good. The area remitted was unusually low. During *rabi* rotational closures were started practically for the first time on this canal and the people felt them keenly.

The shortage in supply due to low river did not begin to make itself felt until late in December, and the areas sown with wheat, barley, and *toria* were well up to normal. Demand during the last three months of the *rabi* season, when the available supply was persistently low, was intensely keen. Second waterings were still being given after 15th March to some fields.

5. The canal was closed for 15 days during *kharif* owing to slackness of demand for water and special repairs to works. The area remitted was 6,371 acres including 2,106 acres remitted under Tenancy Rules. About half of this was due to short supply in *rabi* and the balance to other causes.

Area irrigated.  
Kharif, 1916.  
Rabi, 1916-17.

6. The areas irrigated and assessed compare as follows with the corresponding figures for the average of the preceding triennium:—

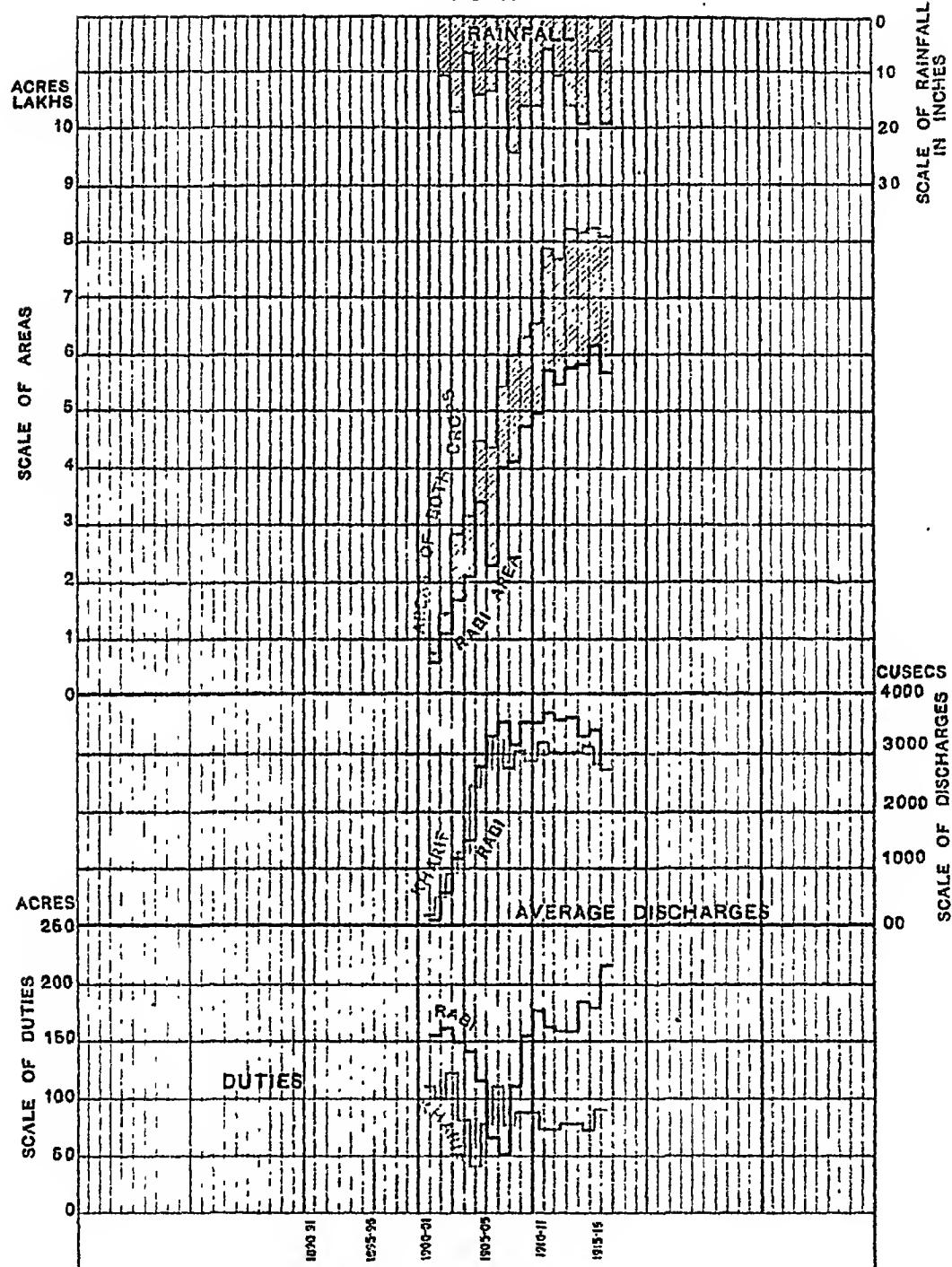
District.	AVERAGE OF THE 3 YEARS ENDING 1915-16.			1916-17.		
	<i>Kharif.</i>	<i>Rabi.</i>	Total.	<i>Kharif.</i>	<i>Rabi.</i>	Total.
<i>Irrigated areas.</i>						
Gujrat	4,363	8,870	13,163	4,067	7,783	11,850
Shahpur	189,814	494,934	684,748	194,563	469,871	664,434
Jhang	39,888	88,600	128,488	41,307	87,110	128,477
Total	234,065	592,334	826,399	239,997	564,764	804,701
<i>Assessed areas.</i>						
Gujrat	4,283	8,781	13,064	4,053	7,705	11,816
Shahpur	181,935	487,830	669,765	102,113	465,440	657,553
Jhang	35,947	80,196	122,143	41,247	85,666	126,913
Total	222,165	582,807	804,972	237,413	558,871	796,284



# LOWER JHELUM CANAL.

## WORKING RECORD.

1916-17.



*N.B.—The intercepts in red area give the Kharif irrigation each year. The discharges are measured at mile 14 of the main canal and give averages for each crop.*

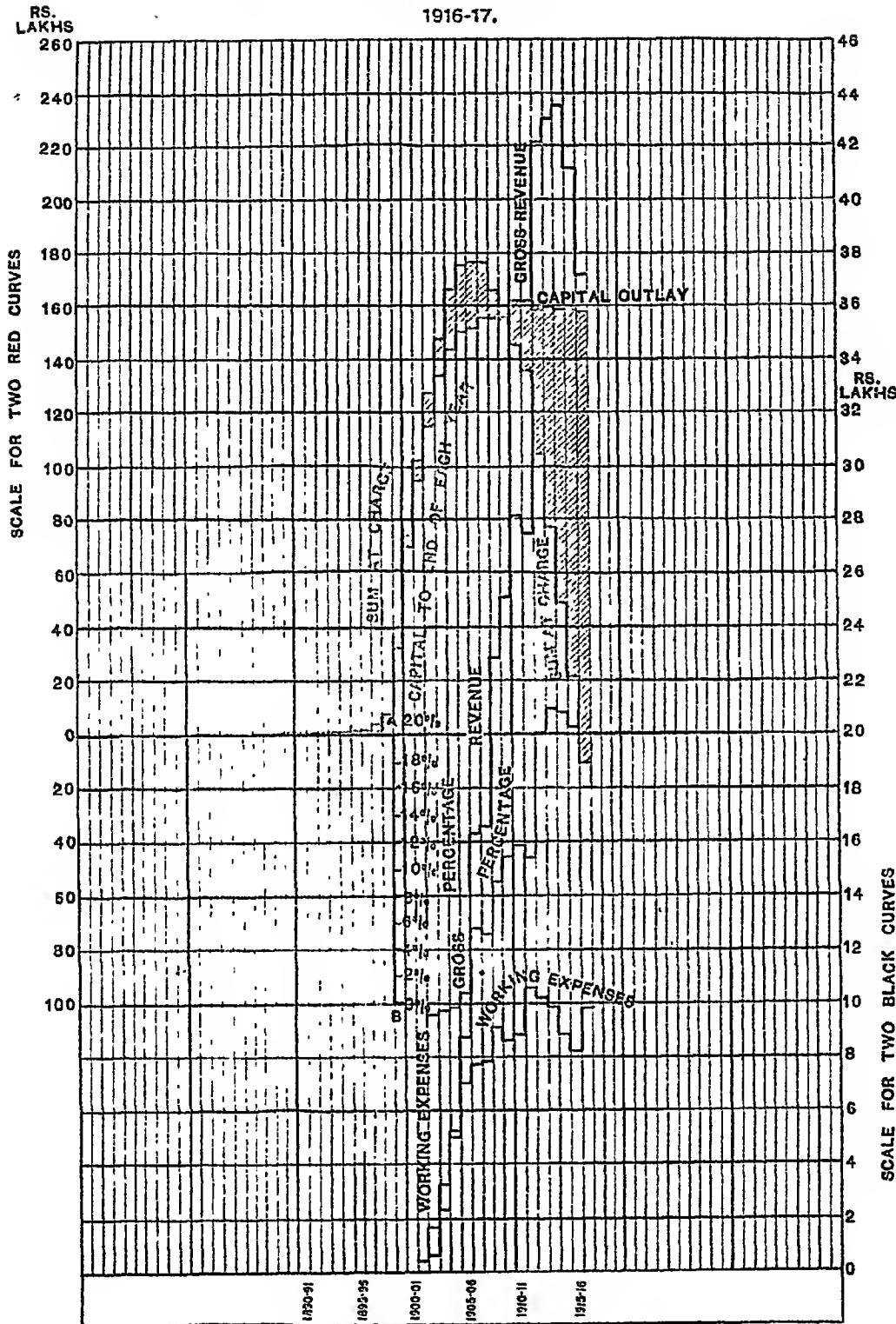
*The duties are derived from these areas and discharges.*



# LOWER JHELUM CANAL.

## FINANCIAL RECORD.

1916-17.



*N.B.*—The intercepts in the red area show arrears of interest which, added to the capital, give the sum at charge.

The intercepts in the blue area give the accumulated profits.

The scheme was commenced in earnest in 1898-99 and opened in 1901. Until 1905-06 the canal did not pay any interest on its capital cost this being due to free remissions of water rates on new irrigation.

The increase in area irrigated in *kharif* was due to an ample supply of water assisted by good rainfall. The reason for the decrease in *rabi* was the unprecedented drought and abnormally low rivers which necessitated rotational working of five canal systems on a definite programme of an experimental type. Out of the total area of 804,761 acres irrigated 405,920 acres were in proprietary villages and 398,841 acres in colony villages.

7. The gross receipts (direct and indirect) amounted to Rs. 47,38,593,

Financial results based on collections :  
*Rabi, 1915-16.* the working expenses to Rs. 9,83,962 and the  
*Kharif, 1916.* net revenue to Rs. 37,54,631, giving a return  
 of 23.57 per cent. on the capital outlay to the end

of the year. This return was about 3 per cent. more than that of the preceding year due to—

- (a) a decrease in the capital outlay by about Rs. 33,000 as explained in paragraph 1 above.
- (b) increase in the area irrigated during *kharif* 1916 and *rabi* 1915-16, revenue on which was collected during the year.
- (c) very small area having been affected by the failure of crops and the consequent grant of very low remissions.

The figures for the year 1916-17 and the average of the preceding three years are compared below :—

Item.	Average triennium, 1913-16.	1916-17.	
		Rs.	Rs.
Occupiers' rates	26,74,820	29,03,746 (a)	
Miscellaneous receipts	61,301	64,164 (b)	
Total direct receipts	27,36,121	29,73,910	
Indirect receipts	15,27,350	17,64,683 (c)	
Total direct and indirect	42,63,471	47,38,593	
Charges to revenue	8,91,993	9,83,962 (d)	
Net revenue	33,66,478	37,54,631	
Percentage on capital	21.13	23.57	
Net revenue less interest	26,30,722	32,41,710	
Percentage on capital	17.76	20.34	

- (a) The increase is due to causes explained in paragraphs 6 and 7 above. The average rate per acre assessed works out to Rs. 3.65 against Rs. 3.32 for the previous triennium.
- (b) The increase was due to larger realizations from water power and miscellaneous other receipts.
- (c) The increase follows the increase under (a) above.
- (d) The working expenses were about one lakh more than the average of the last three years. The cause of this increased expenditure is being enquired into. The rate per acre of area assessed was 1.24 against 1.11 in the preceding triennium.

8. The agricultural and other conditions of the year have been described

General remarks. in paragraph 4 above. The introduction for the first time of the system of rotational

closeries lends a special interest to the year under review. The relative performances of the last five *rabi* seasons may be compared by the following values of  $\Delta$  in the Sargodha Division :—

	$\Delta$
<i>Rabi, 1912-13</i>	2.05
" 1913-14	1.82
" 1914-15	1.95
" 1915-16	1.96
" 1916-17	1.75

The fact that  $\Delta$  for the last *rabi* is the lowest is significant, when it is remembered that there was a complete failure of the winter rains, and that the falling off in area sown was in such crops as gram, senji and maina which require less water than the staple crops. Enquiry showed that the wheat outturn was, if anything, above the normal. The *rabi* delta of 1916-17 indicates less waste of water than in previous years, but it is still high.

(b) Proposals for the remodelling of the entire canal system are being framed by the Special Project Division created for the purpose. Remodelling work was actually begun on the Mithalak distributary. The introduction of a notched fall in the canal in place of the old raised crest below the off-take of this channel appears to have had a beneficial effect upon its persistent tendency to silt. At the time of writing, the channel is drawing, gauge for gauge, the same supply as after it was silt-cleared last November, and since then no silt clearance has been found necessary.

(c) Irrigation on the Sulki Branch is steadily improving. This branch serves the Ara Assessment Circle, the land of which does not lend itself easily to canal irrigation. This is due to a very hard crust of surface soil which forms after it has been watered.

#### UPPER SUTLEJ DIVISION INUNDATION CANALS.

(SUPERINTENDING ENGINEER—MR. F. W. K. YEOMAN.)

1. The expenditure amounted to Rs. 1,465 and was incurred mainly Capital accounts :  
Kharif 1916 on constructing subordinates' rest-houses at Bunga  
Rabi 1916-17. Hayat, Ladhewal and Kalewal.

2. Expenditure of Rs. 13,928 was incurred chiefly on remodelling the head of Pakpattan and Faridpur distributaries ; Extension and improvement. widening the platform and raising the crest of the Hujra and Shah Yaka and Dhulliana Regulators ; widening, regrading and extending the Dhingshah distributary ; and the reduction of outlets on the Wanawala distributary.

3. Expenditure incurred was Rs. 2,57,504 which, in addition to ordinary Maintenance and repairs. maintenance and silt clearance of channels, was incurred on the following works :—Excavating the Nijabat head reach of the Sohag Canal so as to make it independent of the Khizra reserve head of the Khanwah Canal and the Khizra head reach of the Lower Sohag Canal ; regrading and improving the Atari and Haveli distributaries ; and excavating the three diversion cuts in the head reach of the Katora Canal, thereby shortening its length by about 2 miles.

4. The gross income amounted to Rs. 6,08,794 and working expenses Financial results based on collections :  
Rabi 1915-16. to Rs. 4,41,186, showing a net revenue of Kharif 1916. Rs. 1,67,396 or 9.19 per cent. on the capital invested. The previous percentage was 18.50.

5. The following table compares the irrigation of this year with the averages of the two previous triennia :—  
Area irrigated.

Crop.	AVERAGE OF THREE YEARS ENDING				1916-17.	
	1912-13.		1915-16.		Gross irrigated.	Area assessed.
	Gross irrigated.	Area assessed.	Gross irrigated.	Area assessed.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Kharif	...	150,404	123,093	107,045	150,378	152,560
Rabi	...	143,142	142,142	166,193	106,193	160,501
Total	...	293,516	266,234	333,238	322,571	313,151
						302,947

The net area assessed exceeded by 36,713 acres, the average of the triennium ending 1912-13, and was less by 19,624 acres than the average of the three

years ending 1915-16, which included the record year of 1914-15. This is quite satisfactory, taking into consideration the fact that the river remained abnormally low throughout the month of May, thereby delaying the date of opening of the canals by more than two weeks.

6. (a) The following table shows the dates of opening and closing of the canals together with the corresponding dates of the previous year:—

Name of canal.	DATE OF OPENING.		DATE OF CLOSING.		NUMBER OF DAYS CANAL WAS IN FLOW.		REMARKS.
	1916.	1915.	1916.	1915.	1916.	1915.	
Katora	Forenoon, 29-5-16.	Forenoon, 16-5-15.	Forenoon, 9-11-16.	Afternoon, 16-10-15.	16½	160	
Khanwah	Forenoon, 30-5-16.	Forenoon, 11-6-15.	Afternoon, 30-10-16.	Afternoon, 25-10-15.	134	169	
Upper Sohag	Forenoon, 29-5-16.	Forenoon, 9-6-15.	Afternoon, 30-10-16.	Afternoon, 11-10-15.	155	160	
Lower Sohag	Afternoon, 31-5-16.	Forenoon, 16-5-15.	Afternoon, 21-9-16.	Afternoon, 11-10-15.	118	165	

(b) During this year also, as in the previous year, several important works of improvement calculated to increase the area of irrigation were introduced. The river left both the heads of the Lower Sohag Canal high and dry after a flood in the month of August. Steps were taken to excavate the Khiwa head reach which proved to be a great success, as it has increased the supply in the canal for 1917-18 by at least 50 per cent. In addition, a diversion cut was excavated at a cost of Rs. 2,500 to induce the river to adopt a course favourable for the two heads which were left stranded and this cut has also worked quite satisfactorily so far. A further improvement was the reduction of outlets on the Wanawala distributary which enable the tail reach to get its proper share of the water, which it had not done for several years. Necessary steps for giving sufficient supplies of water to the tails of several other channels also were successfully taken during the year.

#### SIDHNAI CANALS (INCLUDING THE KORANGA, FAZIL SHAH AND ABDUL HAKIM SUBSIDIARY CANALS).

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY.)

1. Expenditure of Rs. 4,529 (direct and indirect) was incurred on stock transactions.

Capital account:

Kharif 1916.

Rabi 1916-17.

*Settler's account.*—The sum of Rs. 31-12-0 shown as received during the year 1915-16 on account of repairs to bridges on Sidhnai Canal has further increased to Rs. 236-14-6 during the year. Recoveries are being made by the Deputy Commissioner, Multan.

2. The expenditure was Rs. 11,006 against Rs. 10,516 of the previous year, and was incurred on remodelling Liazabad Minor, Lalera Minor, Chauparhatta distributary and Vinoi distributary, and constructing subordinates' rest-house at Sidhnai, Sub-Overser's quarters at Jodhpur and other works of a petty nature.

3. The expenditure amounted to Rs. 54,373 against Rs. 43,062 of the preceding year, and was incurred on the ordinary annual repairs, silt clearance and strengthening of canal and distributaries.

*Nature of seasons and state of demand and supply:*

Kharif 1916.

Rabi 1916-17.

4. The total rainfall at Kabirwala was 6.95 inches (5.35 inches in kharif and 1.60 inches in rabi) against an average of 6.26 inches.

The Ravi rose very late and water did not enter the canal till the 23rd June. The supply was low until the 30th June. Throughout July irrigation was much interrupted by frequent occurrence of floods, which necessitated the closing off of the canals to exclude silt. The supply was good in September and October, and fair in November, giving the *rabi* a good start.

The very late arrival of the water is noteworthy, but it is useful to remember that it was later in 1908, and in 1898 water arrived on 21st July. In these two years the late opening cannot be attributed to the influence of the Triple Canals.

There was no water in the river after 12th December 1916, but by this date about one-eighth of the *rabi* area was estimated to have had a second watering.

5. The following table shows the irrigation effected on the whole system as compared with the averages of the two previous triennia:—

Crops.	AVERAGES OF THREE YEARS ENDING		1915-16.	1916-17.
	1912-13.	1915-16.		
	Acres.	Acres.	Acres.	Acres.
Kharif	...	111,574	127,386	117,999
Rabi	...	138,526	158,119	152,151
Total	...	250,100	285,505	270,150
				298,536

The percentage of failed crops was 13.96 in *kharif* and 17.7 in *rabi* against 16.46 in *kharif* and 18.06 in *rabi* of the preceding year. This is not unsatisfactory in view of the late arrival of water and absence of winter rains during the *rabi* maturing period.

6. The total income from all sources amounted to Rs. 5,89,749 against Rs. 8,32,779 of the preceding year. Working financial results based on collections: Rabi 1915-16. expenses amounted to Rs. 1,59,012 against Kharif 1914-15. Rs. 1,46,592 in 1915-16. The net income amounted to Rs. 4,30,737, or 32.25 per cent. on the capital outlay, against Rs. 6,86,187, or 51.5 per cent. in the preceding year. The decrease is due to the *rabi* area of 1915-16, assessments on which were realized in the year under review being far short of that of the year 1914-15 owing to deficiency in river supply.

The uncollected balance of the assessment of occupiers' rates amounted to Rs. 3,128.

7. The total area irrigated is the second highest on record, and the year may, therefore, be said to have been a successful one.

General remarks. The question of the distribution of Ravi water between the Lower Bari Doab and the Sidhnai Canals has been satisfactorily settled.

During the course of the winter monthly discharge observations of the river Chenab at Haveli and Shershah were made with the object of putting the data for the Haveli Project on a firmer footing.

The Executive Engineer has brought to notice the very wasteful system of flooding for the ensuing *rabi* crops, which is in vogue on the canal. The compartment or *khal kiari* rules are almost universally ignored. Areas of 3 or 4 acres, consisting of 4 or 5 fields, are irrigated by leading the water through one field into the other, the depth of watering being probably 6 to 8 inches. He calculates that the *rabi* area might have been 1.5 times greater than it was, or assuming that the available area was all irrigated, about two-thirds of the whole might have received a second watering instead of only one-eighth.

No new works of any magnitude are contemplated.

## INDUS INUNDATION CANALS.

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY.)

1. The expenditure amounted to Rs. 9,045 compared with Rs. 1,51,024

Capital account:  
Kharif 1916.  
Rabi 1916-17.

during the preceding year, and was incurred on lowering the bed of the Manka Canal and on the scheme for giving a perennial supply of water for

irrigation to the Dera Ghazi Khan Municipality. The former work is complete and the latter practically so.

2. Rupees 1,15,320 were spent compared with Rs. 1,17,195 during the preceding year. The following were the more Extensions and improvements important works in progress:—Constructing a second ring bund behind the Kotla Bund; new head reach, Fazalwah Canal; Chabri flood embankment; new head reach, Kasturi Canal; Dhan Sikhan flood embankment; a groyne across the Dremian Creek; Kotla Ring Bund No. 3 and Sahiban and Chibri Ring Bunds; and an extension of the Panjtanwala groyne for increasing the supply of water to Nur Dhundi and Gamun Canals.

3. The expenditure amounted to Rs. 1,37,316 against Rs. 1,95,703 in the previous year, and was incurred on ordinary annual Maintenance and repairs. maintenance and repairs, silt clearance of canals, strengthening of certain flood embankments and other miscellaneous works.

4. The average rainfall during *kharif* was 5.71 inches and during *rabi* Nature of seasons and state of demand and supply:  
Kharif 1916  
Rabi 1916-17 0.29 inches against an average of 3.77 inches and 1.66 inches respectively. The river Indus was late in rising, but remained fairly normal after the first week in June. Demand was keen. Some damage to crops resulted from severe frost during November and paucity of rainfall during the *rabi* season.

The following statement shows the period during which canals were in flow:—

Name of canal.	DATE OF		Number of days canal was in flow.	
	Opening.	Closing.		
Massuwah	... ... ...	3rd June 1916 .. 10th May 1916 .. 25th March 1916 ..	10th September 1916. 29th October 1916. 23rd October 1916.	90
Fazalwah	...	10th May 1916 ..	October 1916.	166
Manka	...	25th March 1916 ..	October 1916.	213
Shoria	...	1st May 1916 ... 17th April 1916 ..	October 1916. 24th September 1916.	165
Kasturi	...	1st May 1916 ... 17th April 1916 ..	October 1916. 10th October 1916.	148
Dhingana	...	1st May 1916 ... 9th April 1916 ..	October 1916. 10th October 1916.	171
Chibri	...	27th May 1916 ... 20th May 1916 ...	October 1916. 11th September 1916.	130
Sahiban	...	20th May 1916 ... 15th May 1916 ...	October 1916. 29th September 1916.	121
Gamun	...	20th May 1916 ... 15th May 1916 ...	October 1916. 29th September 1916.	117
Nur Dhundi.	...	3rd May 1916 ... 27th April 1916 ..	March 1917. 22nd October 1916	328
Dhundi Kutab	...	27th April 1916 ..	October 1916.	175
Kadru	...	14th May 1916 ...	November 1916.	171

The Manka Canal was opened early with a low supply to enable irrigation in the Civil Station of Dera Ghazi Khan to be carried out. The Nur Dhundi Canal flowed almost the whole winter with a small but valuable supply.

5. The following table compares the area assessed with the average areas of the previous two triennia :—

Area irrigated :  
Kharif 1916.  
Rabi 1916-17.

Name of crop.	AVERAGE OF THREE YEARS ENDING		1916-17.
	1912-13.	1915-16.	
Kharif	Acres. 132,553	Acres. 115,205	Acres. 140,470
Rabi	... 80,217	... 68,948	... 67,910
Total	212,770	179,153	208,380

The gross and net areas irrigated during *kharif* were 179,941 and 140,470, respectively, against 138,124 and 102,147 acres of the preceding year.

During *rabi* the gross and net areas irrigated were 80,217 and 67,910 against 97,517 and 79,882, the decrease being due to earlier fall in the Indus.

6. The total income from all sources was Rs. 5,28,309 against Financial results based on collections : Rs. 4,37,175 in 1915-16, and the total expenditure Rabi 1915-16. under all heads Rs. 3,98,604 against Rs. 4,41,584. Kharif 1916. The net profit was, therefore, Rs. 1,29,705 against a deficit of Rs. 4,409 in the preceding year, and an average profit of Rs. 43,786 in the previous triennium.

The uncollected balance of the assessment of occupier's rate was Rs. 43,271.

The percentage on the capital outlay during the year was 4.35.

7. The results of the year's operations were, on the whole, satisfactory, General remarks. the gross area irrigated being the third largest on record

The river continued to give trouble at the head of the Dhundi Kutab Canal and the head regulator was engulfed. Erosion here has been very persistent for many years and so long as the westward drift continues it must cause much anxiety and expense.

Some erosion took place at the head of the Manka Canal. This canal also suffered from breaching due to hill torrents.

The principal works of importance under contemplation are :—

- (a) Amalgamating Sohan Branch of Nur Dhundi Canal with Gaimun Canal in order to improve irrigation on both.
- (b) Constructing the Aquilpur Minor. This work has been sanctioned, but is held in abeyance for want of funds.
- (c) Constructing new head reach for the Dhundi Kutab Canal.

#### Minor Irrigation Works.

#### SHAHPUR IMPERIAL (INUNDATION) CANALS.

(SUPERINTENDING ENGINEER—Mr. W. P. SANGSTER, C.I.E.)

Capital account :  
Kharif 1916.  
Rabi 1916-17.

Extensions and improvements.

1. No expenditure was incurred under this head.
2. No expenditure was incurred during the year.
3. Expenditure to the extent of Rs. 18,939 as against Rs. 25,157 in the previous year was incurred on silt clearance and maintenance and repairs.

4. The rainfall was 20.08 inches against 3.53 inches in the previous year. During *kharif* the rainfall was 18.66 inches and during *rabi* 1.42 inches. Of the *kharif* rainfall there was 0.15 inches in April, 0.68 inches in May, 2.95 inches in June, 5.34 inches in July, 8.26 inches in August, and 1.28 inches in September. Of the *rabi* rainfall there was 0.92 inches in October, 0.06 inches in December 1916, and 0.44 inches in March 1917; the months of November 1916, January and February 1917 were dry.

The canals were opened during April 1916 and were closed early in September 1916. Although the supply in the river was low, yet the canals were running satisfactorily.

On the 26th April 1917 there was a hailstorm which spoiled some crops, but the loss was not as much as it was in the previous two years. A total area of 477 acres was remitted.

5. The irrigation of the year compares as follows with the averages of the two previous triennia:—

Area irrigated:  
Kharif 1916.  
Rabi 1916-17.

Season.	AVERAGE FOR THE THREE YEARS ENDING		Actual for 1916-17.
	1912-13.	1915-16.	
Kharif	Acres. 14,298	Acres. 15,880	Acres. 19,683
Rabi	... 18,238	... 23,420	... 27,086
Total	... 32,536	... 38,750	... 46,769

(a) The area successfully matured and assessed was 49,981 acres as against 34,458 acres, the average of the previous triennium. The increase is mostly due to the favourable condition of the river and timely rainfall during the *rabi* season.

(b) Revenue was remitted on 1,788 acres of which 1,581 acres were remitted on account of bad germination, 44 acres due to high supply causing flooding of fields, and 163 acres due to insects and blight.

6. The gross revenue realized amounted to Rs. 1,15,018 and working expenses to Rs. 47,175, leaving a net revenue of Rs. 67,843, which is equivalent to a return of 31.42 per cent. on Rs. 2,15,014, the capital outlay up-to date.

Details compare as follows with the average for the preceding triennium:—

Details.	Average for the three years ending 1915-16.		Actual for 1916-17.
	Rs.	Rs.	
Receipts, direct	... 90,905	... 80,343	
Receipts, indirect	... 17,776	... 31,672	
	Total	1,08,681	1,15,018
Working expenses	... 52,686	... 47,175	
Net revenue	... 56,015	... 67,843	
Percentage of net revenue on capital	... 25.04	... 31.42	

The increase is due to timely rainfall and favourable condition of the river.

## General remarks.

7. The canals began and ceased to flow on the following dates :—

	Began to flow.	Ceased to flow.
Eastern Station Canal ...	16th April 1916	20th September 1916
Western Station Canal ...	20th April 1916	19th September 1916
Sahiwal Canal ...	21th April 1916	20th September 1916

The return of 31.42 per cent. on the capital cost for the year under review against 22.68 per cent. for the previous year, is more than satisfactory.

## GHAJGAR CANALS.

(SUPERINTENDING ENGINEER—Mr. G. O. LAURIE.)

1. There was no expenditure under this head during the year. The capital outlay at the end of the year, therefore,

Capital account.  
Kharif 1916  
Rabi 1916-17

remained the same as at end of the previous year, viz., Rs. 6,61,571.—Imperial, Rs. 3,76,129 ; Contribution, Rs. 2,85,442.

2. Expenditure was Rs. 2,632, i.e., Rs. 1,999 under "Imperial" and Rs. 633 under "Contribution," and was incurred on petty works of improvement.

3. Expenditure was Rs. 6,936 under "Imperial" and Rs. 1,814 under "Contribution" as compared with Rs. 11,643 and Rs. 2,518, respectively, for the preceding year. The expenditure was normal.

4. (a) *Kharif (1916).*—There were light showers of rain during April, May and June, but these did not benefit sowings. The monsoon broke about the middle of July and was well distributed. There was good general rainfall in August and light showers during September. The heaviest falls recorded were 4.2 inches on 16th July at Kamrauli in Bikaner State, 4.5 inches at Otu on 6th August, and 2.4 inches at Mauju Khera on 14th September.

The rainfall was considerably above the average of the previous 17 years.

Water first reached Otu Weir on the 18th June which was unusually early, but the supply was poor and the lake was not filled till 22nd July. The direct minors were opened on the 30th June, but the supply of water was not sufficient for opening the main canals till 20th July. The demand then was not keen owing to local rainfall. Later the supply was fairly good for the rest of the season.

(b) *Rabi.*—Supply for ploughing and sowing was good. There was little or no rain, except light showers, in October, January and March, and that little was insufficient for maturing the crop properly. The area cropped was large, but the outturn was poor in quantity.

(c) *Rainfall.*—The average rainfall of all stations for the year 1916-17 was :—

British	...	...	...	...	17.70 inches,
Bikaner	...	...	...	...	13.90 "

against British 3.15 inches and Bikaner 2.2 inches during 1915-16.

Water was escaped down the river from 23rd to 30th July, again on 5th, 7th to 20th, 24th to 27th August and 6th-7th September. The maximum escapage was on 13th August, when the downstream gauge was 8.0 feet.

The Northern and Southern Canals ran for 66 and 67 days, respectively, during *kharif* and 26 days during *rabi* with average discharges of 725 and, 234 cusecs, respectively.

5. The following table shows the area irrigated in British and Bikaner

Area irrigated :  
Kharif 1916.  
Rabi 1916-17.  
Territories during the last five years ending 1916-17. The area in British Territory includes area assessed by the Civil Department : —

The area irrigated was the highest on record. The figures for 1913-14 to 1916-17 do not include the area under *palcoar* (watered but not sown and on which no water-rates are charged), whereas the figures for the previous years include *palcoar*. The *palcoar* area included in 1912-13 was 23,098 acres, so that the true area irrigated that year was 25,433 acres and not 48,531 acres as shown in the table.

The land under fluctuating assessment is not subject to water-rates, but the canals receive a credit for any fluctuating revenue in excess of an average of Rs. 37,000 per annum.

The amount of occupier's rate assessed was Rs. 4,830 in *kharif* and Rs. 18,245 in *rabi* and the rate per acre assessed works out to 4.29 and 2.5, respectively.

6. *British*.—The operation of the year resulted in a loss of Rs. 8,630 which is equivalent to 2.29 per cent. on the capital outlay compared with a loss of Rs. 18,473 equivalent to 4.91 per cent. in the previous year.

Financial results based on collections:  
Rabi 1915-16.  
Kharif 1910.

So long as the canals receive no revenue for the greater part of the irrigation which they effect, they cannot be expected to be remunerative.

7. The result of the year's working would have been very satisfactory if all land paid water-rates. Although the land-owners of the old inundation area have no longer the expense of maintaining their old channels, their former bunds and the high embankments round their fields, they nevertheless pay no water-rates and their fluctuating crop rates are credited to the Civil Department and not to the canals.

The canals form a very useful public work, but, owing to the method of crediting the revenue indicated above, they appear yearly as irrigation propositions worked at a loss at least as regards Imperial expenditure and revenue.

The canals were in flow for 93 days against 53 days in 1915-16 and 120 days in 1914-15.

The area remitted in British Territory was 813 acres in *kharif* and 784 acres in *rabi*. The approximate value of crops matured on the Ghaggar Canal in British Territory amounted to Rs. 8,88,347 against Rs. 5,67,751 in the previous year.

The principal crops grown are wheat and rice.

(b) *Nature and scope of contemplated new works and progress made on the preparation of new projects*.—The estimate for raising the reservoir level by 3 feet so as to get a more continuous supply of water for the canals, which was originally submitted in 1912, was again submitted in a slightly revised form after more careful study of the subject. It was, however, considered best to take no further action on the subject for the present as it is possible that the northern canal area may hereafter form part of the Sirhind Canal under the Bakra Dam Project, and in that case the existing reservoir storage capacity would be sufficient for the Southern Ghaggar Canal.

(c) *Working of the Ghaggar Canal in the Bikaner State*.—The indentures made by the State authorities were complied with in full whenever sufficient water was available, but the State authorities often refused to take water to the extent available. The largely improved area, however, irrigated in Bikaner State seems to show that the channels there must be getting into better condition.

The following details of irrigation have been supplied by the State:—

Canals.	1916-17.			1915-16.		
	Kharif.	Rabi.	Total.	Kharif.	Rabi.	Total.
Northern Canal ... ...	Acres. 2,403	Acres. 5,979	Acres. 8,382	Acres. 12	Acres. 1,998	Acres. 2,011
Southern Canal ... ...	851	2,807	3,658	Nil	1,157	1,157
Total ...	3,254	8,786	12,040	12	3,156	3,168
Flow ... ...	3,251	8,786	12,010	12	3,156	3,168
Lift ... ...	Nil	Nil	Nil	Nil	Nil	Nil
Total as above ...	3,254	8,786	12,040	12	3,156	3,168

The following table shows the working of the canals as reported by the State : -

Particulars.					1915-16.	1916-17.
<i>Receipts.</i>					Rs.	Rs.
Water-rate	...	...	...	...	8,408	27,616
Miscellaneous	...	...	...	...	154	337
				Total	8,562	27,953
<i>Working expenses.</i>						
Establishment	...	...	...	...	2,018	2,756
Other expenses	...	...	...	...	8,908	2,289
				Total	11,821	5,025
Profit or loss (net)	...	...	...	...	- 3,259	+ 22,926

It will thus be seen that the Bikaner State got a profit of 8.03 per cent. on the working of the canals for the year under review, the contribution capital account standing at Rs. 2,85,442.

#### LOWER SUTLEJ CANALS DIVISION.

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY.)

Capital account:  
Kharif 1916.  
Rabi 1916-17.

1. These canals are classified under 43—  
Minor Works and Navigation for which no Capital Account is kept.

2. The expenditure amounted to Rs. 45,922 against Rs. 54,227 in the preceding year and Rs. 34,441 the average of the previous triennium. It was chiefly incurred on constructing diversions of the Muhammadwah Canal and a masonry toe wall below the Islam Escape, Mailsi Canal, and making additions and alterations to Islam inspection house, Mailsi Canal.

3. Expenditure amounted to Rs. 86,519 against Rs. 1,11,535 in the preceding year and Rs. 1,27,779 the average of the previous triennium, and was incurred on ordinary maintenance of canals, etc.

4. The total rainfall at Lodhran was 10.97 inches against an average of 4.07 inches. No rain fell during the *rabi*. The demand was keen throughout. The Sutlej was late in rising, and indigo and other early crops suffered, but canal supplies were good during the latter part of the *kharif* season and continued well into the *rabi*.

The following statement gives the dates of opening and closing of the canals during the year :—

Name of canal.	Dates of		Number of days canal was in flow.
	Opening.	Closing.	
Hajiwah	...	29th May 1916	4th November 1916
Mailsi	...	4th June 1916	20th December 1916
Muhammadwah	...	18th May 1916	22nd November 1916
Bahawalwah Lodhran	18th June 1916	21st October 1916	142

5. The following table compares the areas irrigated and matured with the average of the preceding triennium:—

Area irrigated  
Kharif 1916  
Rabi 1916-17.

Season,	Canal.	AVERAGE FOR THREE YEARS ENDING 1915-16.		1916-17.	
		Irrigated.	Matured.	Irrigated.	Matured.
Kharif	Hajiwah ...	16,390	13,375	14,072	11,913
	Sutlej Series ...	125,681	107,924	185,001	115,279
	Total ...	142,071	121,299	149,073	127,192
Rabi	Hajiwah ...	25,265	23,978	30,031	24,172
	Sutlej Series ...	146,250	139,696	184,777	169,249
	Total ...	171,515	163,674	214,811	193,421
GRANT TOTAL ...		313,586	284,973	363,884	320,613

The total area which failed to mature was 43,271 (viz., 21,831 acres during kharif and 21,390 during rabi) against 41,751 acres during the preceding year. The increase is mainly attributable to lack of rainfall during the rabi maturing period.

6. The total income from all sources was Rs. 6,26,728 against financial results based on collection: Rs. 6,21,610 in 1915-16, and the total expenditure Rabi 1916-17, Rs. 2,39,727 against Rs. 2,85,454 in the preceding year. The net revenue amounted to Rs. 3,87,001 against Rs. 3,36,156 for the year 1915-16, and an average of Rs. 3,20,796 in the previous triennium.

The uncollected balance of the occupier's rate amounted to Rs. 67 only.

7. The gross area irrigated and the area matured are the second highest on record. The result of the year's operations may, therefore, be said to be, on the whole, very satisfactory.

General remarks. The amalgamation system of running channels in Lodhran Sub-Division is now complete, and remodelling with the object of improving distribution is in hand. The width of some of the larger channels is being increased to enable them to carry correct supplies.

A masonry crossing of 2,000 ousecs capacity was constructed at the expense of the Southern Punjab Railway over the Hajiwah Canal to provide an outfall for river spill partially blocked by the Sutlej Valley Railway.

As the result of river erosion the Muhammadwah Canal was penetrated in October at a point about 8 miles from its off-take from the river, necessitating the construction of a diversion.

#### CHENAB INUNDATION CANALS.

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY.)

Capital account,  
Kharif 1916.  
Rabi 1916-17.

1. There is no capital account for these canals. They are classified under 43—Minor Works and Navigation.

2. The expenditure was Rs. 23,706 against Rs. 11,214 of the year (1915-16). This was incurred mainly on excavating new heads for the Wali Muhammad and Matithal Canals, remodelling Qutabpur Minor, and fixing iron pipe outlets in Lower Bakhtwah with its branches.

3. Expenditure of Rs. 78,093 against Rs. 1,05,894 of the preceding year, was incurred on ordinary silt clearance of canals, repairing breaches, and strengthening banks.

4. The rainfall during *kharif* 1916 was 3.89 inches in Tahsil Multan and 6.05 inches in Tahsil Shujabad. It did a much good to the *kharif* crops and supplemented canal irrigation. The rainfall during *rabi* was 2.53 inches in Multan and 0.20 inches in Shujabad.

*Nature of seasons and state of demand and supply:*  
*Kharif 1916.*  
*Rabi 1916-17.*

The river Chenab remained abnormally low till the 1st week of June and consequently the opening of canals was late. It, however, rose rapidly after this date and gave good supplies until the end of August.

The statement below gives the dates of opening and closing:—

Name of canal.	DATES OF		Number of days canal was in flow.
	Opening.	Closing.	
Matithal...	... 11th June 1916	25th September 1916	100
Daurana Langana	... 10th June 1916	24th September 1916	83
Wali Muhammad	... 5th June 1916	23rd September 1916	83
Sikanderabad	... 24th May 1916	16th October 1916	133
Gajjuhatta	... 3rd June 1916	13th October 1916	111
Bilochanwah	... 12th June 1916	26th September 1916	97

The head of the Matithal Canal silted up during floods, which resulted in its partial failure. The Wali Muhammad and its main branch, the Daurana Langana, had to be run in rotation for some time owing to silting up of the head. The Sikanderabad and Gajjuhatta systems worked exceptionally well, and the Bilochanwah had a comparatively good supply.

*Area irrigated:*  
*Kharif 1916.*  
*Rabi 1916-17.*

5. The following table compares the areas irrigated with the averages of previous triennia:—

Crops.	AVERAGES OF THREE YEARS ENDING		1915-16.	1916-17.
	1912-13.	1915-16.		
	Acres.	Acres.	Acres.	Acres.
Kharif	... 101,141	95,030	84,107	93,557
Rabi	... 80,469	100,576	86,978	111,518
Total	... 181,610	195,606	170,485	205,075

The area which failed to mature was 17,004 acres or 18.18 per cent. of the total area irrigated during *kharif* and 7,347 acres or 6.58 per cent. of the total area irrigated during *rabi*.

6. The total income from all sources was Rs. 4,43,797 against Financial results based on collections: Rs. 4,71,364 of the previous year, and the total Rabi 1915-16. expenditure under all heads was Rs. 1,55,764 Kharif 1916. against Rs. 1,72,292. The net income was, therefore, Rs. 2,89,033 against Rs. 2,99,072 of the preceding year and an average of Rs. 2,81,569 for the previous triennium.

The uncollected balance of the occupier's rate was Rs. 3,858.

7. Generally speaking, the Chenab Canals did well during the year. General remarks. The crops were fair and there were no calamities.

Indigo was extensively sown, much of it on well irrigation, to meet a keen demand. Wheat was also sown extensively, and its yield was good in spite of scanty rainfall during the maturing period.

A high flood came down the river between 16th and 18th July and the gauge at Shershah rose to 18.8 inches on 19th July 1916. As a result of this flood the Dhundu flood embankment in the Shujabad Tahsil breached, but the damage done was not great. This bund is maintained by the District Board of Multan.

River erosion continued near Buh in the neighbourhood of the Gujuhatta Canal, but was not so serious as in previous years.

The Lower Bakhtuwal distributary was piped, and further piping of distributaries will be carried out as funds permit. It is proposed to re-contour the tract commanded by these canals. An accurate contoured map is greatly to be desired and should prove of considerable service in designing the alignments of distributary channels when the Haveli Project scheme is taken up in detail.

#### MUZAFFARGARH CANALS DIVISION.

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY)

1. No capital account is kept for these canals. They are classified under 43—Minor Works and Navigation and Agricultural.

Capital account.  
Kharif 1916.  
Rabi 1916-17.

2. The expenditure amounted to Rs. 36,463 against Rs. 24,170 in the preceding year, and was incurred mainly on Extensions and improvements completing and extending piping and remodelling of channels and building new falls, stop dams and tail clusters.

In addition to the above Rs. 10,739 against Rs. 9,859 during the preceding year, were spent from the "Agricultural fund" on extension and strengthening of embankments and completing works in progress at end of the preceding year.

3. The expenditure amounted to Rs. 1,76,475 against Rs. 1,96,207 during 1915-16 and was incurred on ordinary Maintenance and repairs. silt clearances of canals, repairing breaches, strengthening and raising banks, and improving supplies. Rupees 14,431 in addition was expended from the "Agricultural fund" on maintenance of inspection houses and flood embankments.

4. The rainfall during kharif was exceptionally heavy, especially in Nature of season and state of demand the month of August, and consequent flooding and supply: Kharif 1916. damaged a considerable area of crops, chiefly Rabi 1916-17. in the Sanawan Tahsil. No rain fell during rabi.

Both the Indus and Chenab were late in rising; the latter so much so that the canals off-taking from it could not be opened till well on towards the middle of June. Thereafter, however, it maintained a high level and the canals received good supplies, which were well maintained until September. Floods came down both rivers during August, but did no damage.

The following statement gives the period during which canals were in flow :—

Name of canal.		Date of opening.		Date of closing.		Number of days canal was in flow.
Indus Series	Kot Sultan ...	12th May 1916	...	1st December 1916	...	201
	Magasson ...	14th May 1916	...	16th October 1916	...	155
	Maggi ...	1st May 1916	...	18th October 1916	...	168
	Ghuttu ...	1st May 1916	...	30th September 1916	...	153
	Puran ...	26th March 1916	...	25th November 1916	...	258
	Suleman ...	14th May 1916	...	10th October 1916	...	150
Chenab Series	Karam ...	15th June 1916	...	12th September 1916	...	88
	Ganesh ...	11th June 1916	...	1st October 1916	...	111
	Taliri ...	16th June 1916	...	2nd October 1916	...	113

5. The following statement shows the areas irrigated as compared with the averages of the two previous triennia :—

Areas irrigated:  
Kharif 1916.  
Rabi 1910-17.

Name of crop.	AVERAGE FOR THREE YEARS ENDING 1912-13.			AVERAGE FOR THREE YEARS ENDING 1915-16.			1916-17.		
	Matured area	Failed area	Percentage of Kharif	Matured area	Failed area	Percentage of Kharif	Matured area	Failed area	Percentage of Kharif
	Acres	Acres	Acres.	Acres.	Acres	Acres	Acres	Acres	Acres
Kharif ...	139,489	22,948	14.1	126,024	22,408	15.0	155,023	14,668	8.6
Rabi ...	203,056	12,540	5.8	213,648	14,379	6.8	215,049	13,720	6.0
Total ...	342,544	35,488	9.4	340,672	36,087	9.7	370,072	29,388	7.1

The percentage of failed area, although slightly above that of the preceding year, is lower by 2.6 per cent. than that of the previous triennium and less than in any other year since 1902.

6. The total revenue amounted to Rs. 7,53,898 against Rs. 6,46,213 in 1915-16, and the working expenses to Rs. 3,51,426 against Rs. 3,67,977. The net revenue amounted to Rs. 4,02,472 against Rs. 2,88,236 of the preceding year and an average of Rs. 2,94,256 for the previous triennium.

The uncollected balance of the occupier's rate amounted to Rs. 2,720.

7. The year's results were generally excellent. In spite of the late opening of the Chezab Series the areas, both matured and irrigated, for the whole Division constitute a record.

General remarks. The new feeder for the Suleman Canal gave results which surpassed expectation. The supply on this channel was equal to the demand throughout the year and the area irrigated showed an increase of 22 per cent.

The Sanawan drain was successful in preventing water-logging near the tahsil building until August, but its capacity then proved unequal to coping with the heavy rain and flooding from neighbouring high lands, though subsequently it considerably hastened drying.

The compulsory closing of the Maggi and the Magasson Canals on the 16th October conduced to early drying of the low lands commanded by these channels and facilitated sowing of rabi crops.

Further attention is being given to the question of drainage, and old drains and depressions are being cleared of obstructions and put in order.

Steady progress continues to be made in remodelling and regrading channels and in the substitution of iron pipe outlets for open cuts. The improved results obtained for the year are undoubtedly due to the better distribution made possible by these means.

The necessity for increasing the escape capacity of many channels is an important question and several schemes for this purpose are being investigated.

#### SHAHPUR (PROVINCIAL) INUNDATION CANALS.

(SUPERINTENDING ENGINEER—MR. W. P. SANGSTER, C.I.E.)

Capital account :  
Kharif 1916.  
Rabi 1916-17.

1. No capital account is kept for these canals.

Extensions and improvements.

2. No expenditure was incurred under this head.

3. Expenditure to the extent of Rs. 26,168 against Rs. 19,329 in the previous year was incurred on the usual maintenance and repairs. The corresponding expenditure during the preceding 22 years averaged Rs. 14,228 per annum. The increase during the year is being investigated.

Nature of seasons and state of demand  
and supply :  
Kharif 1916.  
Rabi 1916-17.

4. The rainfall was 20.08 inches (kharif 18.66 inches and rabi 1.42 inches) against 3.43 inches in the preceding year.

Demand for canal water was moderate, there being sufficient rain during kharif. Supply in the river was satisfactory. The canals were opened and closed on the following dates :—

	Date of opening.	Date of closing.
Raniwah Canal	... 23rd April 1916	20th September 1916.
Corbynwah Canal	... 15th, May 1916	6th September 1916.

The corresponding dates of opening and closing averaged over the preceding 22 years, were as follows :—

	Date of opening.	Date of closing.
Rainwah Canal	... 16th April 1916	14th September 1916.
Corbynwah Canal	... 12th April 1916	10th September 1916.

The Raniwah opened a week later and closed six days later than the average dates of the past, and the Corbynwah opened about a month later and closed four days earlier than the past average.

Area irrigated :  
Kharif 1916.  
Rabi 1916-17.

5. The area irrigated compares as follows with the averages of the two preceding triennia :—

Season.	AVERAGE OF THREE YEARS ENDING		Actual for 1916-17.
	1912-13.	1915-16.	
	Acres.	Acres.	Acres.
Kharif	17,034	14,950	6,855
Rabi	8,849	11,788	24,510
Total	25,883	26,768	31,404

The figures for the *kharif* and *rabi* crops are not comparable with the averages of the two previous triennia on account of transfer of *kharif* irrigation of grass to *rabi*. The compliance of orders issued previously on the subject is being insisted upon.

The increase in irrigation over the preceding two triennia is due to the satisfactory state of the river supply and timely rainfall.

Revenue was remitted on 1,659 acres, of which 1,213 acres were remitted under Tenancy Rules, 339 acres due to bad germination, and 26 acres due to high supply causing the flooding of fields.

6. The revenue receipts and expenditure of the year compare as follows with the figures of the previous triennium :—

*Financial year's taxation collections :—*  
*Rabi, 1915-16.*  
*Kharif, 1916*

Details.	Average triennium ending 1915-16.		Actual for 1916-17.
	Rs.	Rs.	
Total assessments, direct and indirect	...	51,679	71,047
Receipts, direct and indirect	...	51,689	45,405
Working expenses	...	59,216	47,609
Net revenue	...	12,473	— 2,141

There was a loss of Rs. 2,141 on the year's working which is due to higher working expenses and considerable area irrigated free of water-rates under Tenancy Rules. This area amounts to 1,213 acres.

SIMLA :

The 8th October 1917.

W. F. HOLMS,

Chief Engineer, Irrigation Works, Punjab.



GOVERNMENT OF THE PUNJAB.  
**PUBLIC WORKS DEPARTMENT.**

IRRIGATION BRANCH.

**Part II.**

**STATISTICAL STATEMENTS FOR THE YEAR 1916-17.**

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## STATEMENT OF CANALS

PARTICULARS.	MAJOR IRRIGATION							
	Western Jumna Canal including Sirsa Branch, British and Patiala.	SIRHIND CANAL			Dabab	Dabab	Dabab	Upper Chenab Canal.
		British.	Patiala, N.W.B. and United States.	Upper Canal.				Lower Chenab Canal.
I	2	3	4	5	6	7	8	
Source of supply	Jumna.		Beutlej.	Ravi.	Ravi and Chenab.	Chenab.	Chenab.	
Minimum discharge of river.	Ever recorded, cubic feet per second	2,167	2,780	1,272	220	8,854	8,854	
	During the year	2,254	3,458	1,740	210	6,018	4,683	
	As designed	6,178	8,640	2,160	6,000	6,750	11,742	8,318
Maximum discharge of canal.	Now authorized	6,430	5,451	8,050	6,700	...	11,874	10,720
	During the year	6,131	8,250	6,690	4,630	8,895	10,266	
Average annual rainfall	— Inches	(a) 33.48	(b) 16.40	(c) 18.13	(d) 24.16	(e) 85.11	(f) 17.87	(g) 13.11
Gross area commanded	Acres	2,735,268	2,568,132	1,954,560	1,782,560	1,557,180	1,028,330	3,387,626
Culturable area commanded	Acres	2,315,077	2,273,467	1,629,000	1,591,346	1,204,818	1,523,191	2,582,798
Area proposed to be irrigated annually.	By complete project	698,555	763,442	420,000	621,655	823,934	623,675	1,726,760
	At present	698,555	760,000	420,000	621,655	784,006	692,783	1,726,760
Sanctioned Estimate—								
Direct charges	Rs.	1,06,54,269	2,29,13,998	1,44,67,176	1,57,23,565	2,16,69,940	8,01,31,553	2,60,84,175
Indirect charges		7,50,277	12,73,126	...	...	6,65,462	12,25,441	8,31,791
Interest during construction		34,27,795	87,03,631	...	...	34,29,947	71,03,568	66,60,377
	Total Estimate	1,17,32,341	3,28,00,755	1,44,67,176	1,57,23,565	2,67,58,319	4,34,60,692	8,81,66,243
Expenditure to end of 1916-17.	Direct charges	1,80,44,014	2,63,81,050	1,43,17,239	2,11,00,369	2,14,20,273	3,13,61,637	3,15,78,920
	Indirect charges	8,10,219	12,11,153	...	7,27,020	4,55,990	9,50,517	7,70,008
	Interest - during construction.	32,05,964	85,45,401	...	1,04,07,038	39,00,619	63,68,216	64,52,813
	Total Expenditure	2,20,63,197	3,41,38,714	1,43,17,263	3,63,81,890	2,57,74,912	4,36,51,100	8,83,07,831
Works as now sanctioned—								
Main Canals, irrigation	Miles	82	89	80	124	171	49	
Branch Canals		248	279	219	295	...	857	
Branch Feeder Canals		...	...	...	16	...	...	
Lower Chambal Nala Canal		4	...	...	...	...	...	
Distributaries, irrigation		1,837	1,690	1,821	1,661	1,050	1,178	2,219
Lower Chambal Nala Canal Distributaries		45	...	...	...	...	...	...
Of above—								
Navigable Channels		121	93	45	...	...	...	
Works completed to end of 1916-17—								
Main Canals, irrigation		82	89	30	124	171	60	
Branch Canals		263	270	219	295	...	887	
Branch Feeder Canals		...	...	...	16	...	...	
Lower Chambal Nala Canal		4	...	...	...	...	...	
Distributaries, irrigation		1,837	1,690	1,821	1,661	1,046	1,107	2,219
Lower Chambal Nala Canal Distributaries		45	...	...	...	...	...	...
Of above—								
Navigable Channels		121	93	45	...	...	...	

Note—Miles as given in this statement

\*Sialkpur and

+Includes 3 miles.

(a) Average rainfall for the last 38 years.  
 (b) Ditto ditto 83 do.  
 (c) Ditto ditto 27 do.  
 (d) Ditto ditto 15 do.  
 (e) Ditto ditto 10 do.

**A.**  
IN THE PUNJAB.

WORKS.				MINOR IRRIGATION WORKS.									
Upper Jhelum Canal.	Lower Jhelum Canal.	Upper Sutlej Canal.	Sindhu Canal.	Indus Canal.	Shabpur (Imperial) Inundation Canals.	Ghaggar Inundation Canals.		Lower Sutlej Inundation Canals.	Chenab Canal.	Muzaffargarh Inundation Canals.	Shabpur (Provincial) Inundation Canals.		
						British.	Bikaner State.						
9	10	11	12	13	14	15	16	17	18	19	20		
Jhelum	Jhelum.	Sutlej.	Indus.	Jhelum.	Ghaggar.	Sutlej.	Chenab.	Indus Chenab.	Jhelum.				
4,614	2,795	3,001	The river runs dry.	9,439	2,795	The river runs dry.		2,580	1,650	9,480 1,650	2,795		
4,514	...	3,630		22,836	...			2,580	1,660	23,668 1,650	...		
8,600	8,600	4,986	2,183	Net known	1,100	1,000	560	5,566	5,108	7,581	933		
...	{ K 8,750 R 8,760 }	...	2,605	...	1,100	1,100	600	...	...	...	932		
5,690	4,250	7,681	2,623	8,719	817	725	234	6,281	4,105	11,015	735		
81.52	(d) 11.06	(f) 10.07	(g) 6.61	(A) 6.57	(g) 14.52	(i) 9.85	(g) 12.62	(A) 5.41	(A) 6.05	(a) 5.2	(g) 10.77		
598,106	1,363,393	959,780	890,977	879,108	67,067	80,324	44,901	918,208	458,478	771,811	50,925		
569,203	1,163,405	899,686	311,160	423,923	62,054	72,978	34,618	906,152	860,318	674,932	53,255		
341,960	668,921	349,697	150,000	806,760	47,780	46,894	17,809	250,000	200,000	850,000	27,000		
327,095	668,921	320,134	150,000	305,760	42,000	46,884	17,809	250,000	200,000	850,000	24,170		
4,3240,292	1,83,05,782	18,35,878	8,62,933	6,87,906	2,05,913	8,59,602	3,07,865	...	...	...	...		
10,65,277	5,68,206	45,400	37,002	19,729	9,091	10,028	...	...	...	...	...		
73,20,713	83,08,554	...	89,086	...	...	...	...	...	...	...	...		
5,10,17,305	2 22,62,712	13,32,778	10,39,561	7,07,645	2,16,914	8,69,720	8,07,855	...	...	...	...		
4,30,11,591	1,65,13,447	1", 18,805	12,96,265	29,01,976	2,05,938	8,66,837	2,65,412	...	...	...	...		
~ 8,38,368	3,69,721	1,01,641	49,226	60,376	9,981	10,792	...	...	...	...	...		
85,23,413	83,03,714	8,87,000	2,13,611	6,86,207	...	...	...	...	...	...	...		
5,23,73,300	2,42,96,892	27,06,936	16,48,001	30,68,558	2,16,914	8,76,129	2,96,462	...	...	...	...		
156	30	820	63	443	53	44	53	400	207	417	83		
87	205	...	...	...	18	...	...	...	...	...	18		
...	...	...	...	...	...	...	...	...	...	...	...		
803	697	895	252	803	72	34	63	807	63	730	53		
...	...	...	...	...	...	...	...	...	...	...	...		
...	...	...	...	...	...	...	...	...	...	...	...		
458	80	820	68	443	53	44	53	400	267	417	83		
87	156	...	...	...	13	...	...	...	...	...	18		
...	...	...	...	...	...	...	...	...	...	...	...		
305	697	895	252	804	72	34	63	807	63	740	52		
...	...	...	...	...	...	...	...	...	...	...	...		
...	...	...	...	...	...	...	...	...	...	...	...		

are canal miles of 6,000 feet.

Parianagar Chenab.

for Bhimber diversion—

(f) Average rainfall for the last 24 years.

(g) Ditto ditto 28 do.

(h) Ditto ditto 60 do.

(i) Ditto ditto 18 do.

(j) Ditto ditto 14 do.

(k) Ditto ditto 7 do.

J.B.

CAPITAL ACCOUNT OF THE IRRIGATION WORKS IN THE PUNJAB PROVINCE FOR AND TO  
END OF 1916-17.

		DIRECT CHARGES (NET EXPENDITURE).					Indirect charges ex- clusive of interests.	Total charges excluding interests.	Simple interests.
		Works.	Establish- ment.	Tools and Fuels.	Subsistence.	Total.			
		1	2	3	4	5	6	7	8
<b>49—CAPITAL EXPENDITURE ON IRRIGATION WORKS NOT CHARGED TO REVENUE.</b>									
WESTERN JUMPA CANAL INCLUDING SINGA BRANCH.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	1,31,35,552 907	82,34,132 320	2,17,908 18	2,18,725 47	1,68,82,347 1,180	6,10,128 31	1,78,92,532 1,110	3,29,01,200 6,66,681	
Contribution	To end of previous year	9,00,188	2,35,542	23,708	...	11,00,678	...	11,50,478	...
	During the year	...	...	...	...	...	...	...	...
SINGHDOH CANAL—IMPERIAL.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	1,74,33,940 31,034	46,37,618 —102	21,06,584 —98	1,65,072 17,718	2,43,45,111 28,620	13,71,447 —204	2,55,50,572 26,362	3,37,40,036 6,65,114	
Contribution	To end of previous year	97,31,120	53,80,419	12,01,468	...	1,43,02,006	...	1,43,02,006	...
	During the year	19,086 1,372 1,090	701 74 86	—10 —1 —1	...	19,777 1,345 1,183	65 9 9	15,963 1,354 1,170	...
SINGH DOH CANAL.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	1,01,05,181 1,51,123	34,90,826 —35,786	9,16,837 828	6,17,100 —1,55,283	2,11,30,402 —30,154	7,43,005 —4,986	2,18,73,407 —35,180	3,45,76,923 6,60,040	
LOWER DARI DOH CANAL.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	1,84,61,976 1,18,123	27,80,153 2,76,670	16,10,058 4,21,770	9,62,488 —80,483	2,06,68,904 7,13,509	4,15,028 38,002	2,10,31,004 7,02,571	32,08,927 6,93,025	
UPPER CHINNA CANAL.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	9,68,94,278 1,04,540	41,85,834 3,76,709	18,84,494 8,09,458	9,11,407 —1,90,068	8,80,24,503 7,37,114	8,87,099 1,03,457	8,45,01,703 8,40,001	71,30,686 11,39,593	
LOWER CHINNA CANAL.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	2,61,07,292 6,30,078	47,35,892 67,284	6,33,800 6,318	4,75,085 24,668	9,10,33,850 6,48,021	7,05,881 12,817	8,17,94,780 6,53,733	2,26,74,631 10,31,984	
UPPER JHulum CANAL.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	8,15,30,787 11,51,901	44,03,828 8,15,333	64,70,020 2,16,738	31,07,074 —1,93,073	4,35,01,804 14,30,393	7,79,823 56,610	6,23,01,110 14,59,523	71,30,163 12,34,300	
LOWER JHulum CANAL.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	1,90,18,056 —2,070	31,88,678 6,233	2,62,827 299	4,38,455 —56,700	1,88,70,541 —69,198	8,90,121 600	1,50,87,762 —32,783	28,80,728 6,12,921	
UPPER SUTHER INUNDATION CANAL.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	12,76,814 651	5,05,097 80	24,820 7	28,063 754	27,17,351 1,451	1,01,027 14	35,18,351 3,465	31,80,831 6,60,036	
INDUS INUNDATION CANAL.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	23,45,100 15,572	6,53,384 553	35,093 29	64,943 —4,860	28,03,380 6,610	70,046 621	20,73,303 6,045	18,40,659 6,51,610	
Total Imperial	To end of previous year	16,32,34,320	2,07,39,812	1,19,91,426	49,78,183	31,07,41,711	48,09,273	31,69,51,481	14,40,61,281
	During the year	19,78,508	8,03,601	10,86,830	4,70,338	31,86,750	2,08,070	32,64,709	70,03,847
Total Contribution	To end of previous year	1,09,31,338	35,06,901	13,35,356	—	1,54,63,433	—	1,54,63,433	—
	During the year	14,437	850	—13	—	16,894	103	15,897	—
<b>49—MINOR WORKS AND NAVIGATION.</b>									
BRAMPUR CANAL.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	1,75,000	30,350	613	—	3,06,933	9,081	3,16,014	—	—
CHAGGAR CANAL.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	2,04,017	63,707	7,053	—	3,05,337	10,792	3,76,193	—	—
Contribution	To end of previous year	2,36,024	44,164	8,574	—	3,85,613	—	3,85,643	—
	During the year	—	—	—	—	—	—	—	—
Total Imperial	To end of previous year	4,69,877	13,067	9,510	—	5,73,70	20,773	5,92,043	—
	During the year	—	—	—	—	—	—	—	—
Total contribution	To end of previous year	2,98,026	64,356	8,334	—	3,84,143	—	3,85,443	—
	During the year	—	—	—	—	—	—	—	—
JAMMUZI CANAL.									
To end of previous year	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
During the year	29,070	19,321	8,004	—	61,004	2,705	33,700	—	—

I C.

STATEMENT SHOWING THE FINANCIAL RESULTS OF THE IRRIGATION WORKS IN  
THE PUNJAB PROVINCE FOR THE YEAR ENDING 31st MARCH 1917.

STATEMENT SHOWING THE FINANCIAL RESULTS OF THE IRRIGATION,  
REALIZATIONS UNDER THE MAIN HEAD OF

IRRIGATION.	REVENUE ACTUAL RECEIPTS.												
	IRRIGATION.				IRRIGATION.				IRRIGATION.				
	Water rents directly paid.	Share of land revenue, sale of waste lands and other lands.	Owner's rents.	Total.	Navigation.	Plantation.	Water power.	Miscellaneous.	Total.	Refund of rents.	Gross receipts less refunds.		
1	2	3	4	5	6	7	8	9	10	11	12		
Productive Works.													
Western Jumna Canal, including Sirsa Branch.	Imperial Contribution	27,70,417	2,08,310	...	20,87,757	23,594	22,850	3,320	65,762	61,53,024	1,134	31,01,750	
Sirhind Canal	Imperial Contribution	32,63,003	1,42,781	...	40,80,720	9,705	31,345	1,98,000	1,22,627	43,07,820	651	40,63,676	
Upper Bara Doab Canal	...	24,71,616	...	...	21,71,910	6,310	20,821	41,780	65,340	25,80,914	8,001	(3) 20,72,310	
Lower Bara Doab Canal	...	42,07,110	9,68,676	...	48,75,994	...	28,033	1,10,577	1,87,007	53,12,301	6,437	22,08,681	
Upper Chenab Canal	...	7,31,730	2,03,024	...	9,37,654	...	3,073	...	24,433	9,65,100	237	9,61,633	
Lower Chenab Canal	...	32,83,014	3,61,872	...	25,88,917	...	421	...	23,478	25,63,810	260	23,63,850	
Upper Jhelum Canal	...	68,03,030	60,08,027	...	1,07,31,063	...	16,070	14,490	87,012	1,98,70,411	311	1,08,30,103	
Lower Jhelum Canal	...	74,793	...	...	74,793	...	2	...	6,811	83,939	8	83,081	
Upper Sutlej Irrigation Canals	...	3,78,080	2,18,008	...	5,04,037	...	9,078	...	9,090	6,09,001	210	9,08,704	
Sindhu Canal	...	4,61,101	1,31,314	...	6,63,509	...	237	...	4,358	5,60,123	371	5,20,719	
Indus Irrigation Canals	...	1,92,910	2,73,500	...	4,60,143	...	2,327	...	50,830	5,28,500	...	5,29,300	
TOTAL	Imperial Contribution	5,68,33,130	1,18,31,201	...	5,35,61,451	63,391	1,16,103	2,71,150	6,61,450	5,96,39,836	7,921	3,00,31,812	
WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.													
Lower Sutlej Irrigation Canal, including Hsijis	...	3,18,634	3,05,700	...	6,23,331	...	3,403	...	2,083	9,20,814	180	6,26,729	
Maranjabir Irrigation Canals	...	3,32,635	4,10,010	...	7,30,374	...	13,117	...	2,556	7,63,047	40	7,53,696	
Chenab Irrigation Canals	...	1,73,723	5,45,703	...	4,40,520	...	1,000	...	1,619	4,41,042	215	4,43,707	
TOTAL	...	8,35,614	9,07,114	...	18,62,123	...	10,615	...	6,960	18,51,003	450	18,31,433	
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.													
Shahpur Canal	...	...	20,216	64,072	...	1,14,997	...	35	...	6	1,15,010	...	1,15,010
Chaggar Canal	Imperial Contribution	21,617	...	...	21,817	...	...	...	3	21,656	...	21,650	
TOTAL	Imperial Contribution	1,02,163	33,673	...	1,30,631	...	25	...	9	1,30,868	...	1,36,669	
Provincial.													
Shahpur Canal	...	...	31,693	12,873	...	44,805	...	...	603	45,465	...	45,465	
Bari Irrigation Canals	...	...	...	3,723	...	3,723	...	...	...	3,232	...	3,223	
TOTAL	...	31,693	16,105	...	48,087	...	...	...	600	45,057	...	45,087	

(a) Includes Rs. 1,236 credited to Patiala State through  
(b) and (c) Includes Rs. 21,031 and Rs. 19,857, respectively.  
(d) Includes Rs. 72,854 passed through the Administrators  
(e) " " 6,52,145, Rs. 27,345 and Rs. 34,413 spent  
(f) " " 2,750 spent by the Bikanar State.  
(g) " " 2,200  
(h) " " 3 " " " " " "

C.

## WORKS IN THE PUNJAB PROVINCE FOR THE YEAR ENDING 31st MARCH 1917.

## REVENUE AND WORKING EXPENSES.

MAINTENANCE OF WORKS.																			
ESTABLISHMENT REVENUE.					ESTABLISHMENT.														
objectives:	Prentices.	Navigators.	Civil Officers.	Total.	Direction.	Prentices.	Medical.	Total.	Works.	Repairs.	Sundries.	Tools and Plants.	Plantation.	Total cost of maintenance.	Total direct charges.	Indirect charges.	Grand Total Working expenses.	Net Revenue.	
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	21	
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
36,107	3,23,835	233	75,781	4,38,035	16,293	92,064	11,017	1,21,014	1,11,182	6,65,160	8,927	14,189	10,702	6,91,380	12,77,405	78,010	18,56,021	17,95,730	
69	256	...	...	343	6,039	33,031	...	39,186	16,339	(r)	43,434	105	574	1,374	1,03,262	1,03,037	...	1,03,637	1,20,147
38,220	3,20,431	147	1,27,504	4,03,458	12,222	62,163	9,725	84,113	1,31,623	6,16,168	143	16,058	20,631	8,11,107	18,04,015	82,636	13,87,160	20,76,020	
5,014	10,009	...	...	11,263	23,457	67,021	2,632	1,14,090	1,21,675	6,27,926	1,335	9,780	5,761	9,20,781	9,43,083	...	9,43,083	16,20,247	
61,320	1,53,410	...	1,10,610	6,24,020	12,664	77,166	6,403	45,453	1,09,726	4,35,852	...	27,277	33,53	6,61,171	13,17,701	1,01,335	14,18,120	37,60,738	
15,011	1,38,329	...	24,106	1,77,370	14,626	20,616	...	11,081	8,901	3,70,103	...	6,303	23,1	1,17,650	5,05,374	31,002	6,26,350	9,38,537	
21,236	1,60,654	...	66,637	5,02,326	9,116	21,195	...	23,913	23,67	1,55,065	4,700	5,516	11,605	5,31,310	7,90,070	11,850	8,98,301	17,26,239	
40,102	8,11,427	...	2,64,772	0,45,351	16,971	1,23,6,0	23,516	1,23,371	6,20,162	8,29,007	2,005	46,190	20,602	10,10,320	25,61,077	1,65,100	27,10,753	1,41,036	
1,618	63,711	...	1,607	66,420	20,463	60,070	...	96,461	47,541	3,95,067	...	6,710	21,338	6,00,354	0,10,610	20,085	0,46,705	5,67,161	
45,190	8,02,274	...	81,861	4,32,307	11,142	41,011	15,707	68,710	72,472	2,61,733	...	47,700	8,805	4,61,013	0,13,020	70,142	6,88,802	37,51,631	
5,377	78,521	...	16,228	61,163	7,421	41,207	1,606	53,71	13,533	2,48,129	...	1,078	4,470	8,20,612	4,50,731	30,607	4,41,398	3,07,300	
3,703	69,316	...	5,416	67,651	1,071	6,700	1,712	11,613	10,305	40,142	...	8,600	5,132	80,382	1,47,013	11,000	1,50,012	4,50,737	
4,038	63,881	...	6,700	60,310	9,008	55,051	1,473	65,701	1,16,320	1,21,607	23	1,616	16,030	3,1,600	3,78,010	10,685	8,98,004	1,29,705	
2,71,215	20,10,407	320	7,71,630	30,43,051	1,70,666	0,32,413	67,480	6,30,744	11,61,619	42,61,761	15,517	1,75,712	2,10,151	60,63,769	1,63,37,540	8,32,731	1,00,70,471	2,80,01,411	
2,703	10,925	...	...	13,028	20,325	1,21,662	2,652	1,63,820	1,60,013	7,21,360	1,416	10,263	0,437	10,33,072	10,46,700	...	10,46,700	17,19,304	
0,703	42,649	...	8,029	61,038	5,230	22,083	1,353	20,235	42,022	6,785	-622	1,450	5,131	1,82,032	2,10,086	13,001	2,36,737	3,67,001	
0,327	66,160	...	9,405	73,900	11,780	35,337	...	47,117	38,403	1,66,703	-1,405	1,626	0,716	2,60,181	3,84,471	16,975	3,61,420	4,02,472	
5,182	10,254	...	5,140	25,615	4,311	15,748	...	21,027	23,708	71,730	...	497	6,331	1,23,353	1,40,108	8,660	1,65,768	2,63,033	
20,671	1,10,001	...	23,009	1,63,671	32,371	73,075	1,363	67,420	1,00,001	9,16,682	-3,021	3,878	31,105	8,46,464	7,10,335	30,683	7,40,017	10,77,506	
4,208	11,000	...	2,217	17,682	2,023	5,101	...	7,310	...	18,017	...	...	823	20,155	41,707	3,428	47,176	67,513	
3,101	6,030	...	603	10,783	1,000	6,635	...	6,236	1,000	6,787	...	-91	48	17,036	27,616	2,063	30,480	-6,630	
...	...	...	...	...	185	8,105	...	3,350	633	(g)	4,690	...	(A)	20	8,130	8,130	...	8,130	-6,130
0,307	16,059	...	2,810	23,333	3,721	11,720	...	15,470	1,020	23,403	...	-31	971	45,160	71,620	0,130	77,635	60,213	
...	...	...	...	...	166	3,105	...	3,350	633	6,000	...	37	30	8,130	8,130	...	8,130	-6,130	
2,057	4,710	...	1,116	7,801	3,313	7,601	...	10,014	...	20,108	...	...	37,053	41,070	2,033	47,000	-2,114		
3,300	...	...	...	2,100	...	...	...	...	...	...	...	...	...	...	2,100	205	2,401	619	
4,101	4,710	...	1,116	10,003	3,318	7,001	...	10,014	...	20,108	...	...	37,053	47,065	2,028	60,013	-1,320		

The Administrative Accounts of the Province, actually spent by the Patiala State on maintenance of State Canals, Accounts of the Irrigation, by the Native States of Pailia, Nabha and Jind, respectively.

III

STATEMENT SHOWING THE FINANCIAL RESULTS OF IRRIGATION

Number of works.	Name of works.	GENERAL FINANCIAL RESULTS TO END OF 1916-17.								
		Mileage in operation.		Estimated cost of construction (direct and indirect).	Date of completion of work (P. W. Code II, 1918).	Date when system first came into operation.	Total capital outlay (direct and indirect).	Accumulated excess of interest.	Accumulated revenues.	Total amount charged (column 7 + column 8).
		Main Canals and Branches.	Distributaries.							
1	2	3	4	5	6a	6b	7	8	9	10
	MAJOR WORKS.									
	Productive Works.									
1	Western Jumna Canal, including Sirsa Branch, Imperial Contribution.	284	1,781	1,74,79,940	Western Jumna Canal—1886	1820	1,76,93,755	...	5,28,63,692	1,76,93,755
2	Sirhind Canal, Imperial Contribution.	318	1,61	11,60,478	Sirsa Branch—1885	1891-92	11,60,478	...	...	11,60,478
3	Upper Bari Dab Canal.	341	1,561	2,10,00,680	1878-79	1860-61	2,18,37,358	...	4,56,29,655	2,18,37,358
4	Lower Bari Dab Canal.	134	1,046	2,20,28,402	31st March 1917	1918-14	2,18,74,263	85,36,554	...	2,54,10,817
5	Upper Chenab Canal	171	1,107	3,65,32,024	31st March 1917	1912-13	3,58,43,184	61,09,593	...	4,16,41,777
6	Lower Chenab Canal	427	2,249	3,26,08,066	1890-1900	*	8,28,56,018	...	12,71,39,012	3,23,55,018
7	Upper Jhelum Canal	125	396	4,61,21,539	31st March 1917	1915-16	4,39,49,947	90,80,007	...	5,29,30,531
8	Lower Jhelum Canal	185	97	1,69,63,069	31st March 1917	1901	1,59,03,168	...	1,71,18,331	1,59,33,168
9	Upper Sutlej Inundation Canals.	820	395	17,97,019	Upper Sutlej—1856-59 Lower Sutlej—1852-59	1884	19,18,846	...	31,40,189	18,19,846
10	Sidhu Canal	63	262	12,87,939	1886	1886	*18,35,490	...	83,21,084	18,35,490
11	Indus Inundation Canals.	443	304	29,14,290	1849-50	Prior to—1849	*29,82,831	7,06,680	...	86,69,031
	Total Imperial Contribution	2,642	11,029	22,67,51,836	...	...	22,06,16,103	1,95,23,434	27,01,21,618	24,01,89,627
	Total Contribution	254	1,972	1,64,79,849	...	...	1,51,77,767	...	...	1,54,77,767
	MINOR WORKS.									
	WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.									
12	Shahpur Canal	60	72	2,16,914	1870-71	1870	2,15,014	...	11,30,301	2,15,914
13	Ghaggar, Imperial Contribution.	44	84	3,70,120	1095-99	1897	3,70,120	10,75,558	...	14,61,637
	Total Contribution	53	...	2,85,442	...	...	2,85,442	...	...	2,85,442
	Total Imperial Contribution	110	106	6,92,043	...	...	5,92,043	10,75,558	11,30,301	10,67,601
	Total Contribution	53	...	3,85,442	...	...	2,85,442	...	...	2,85,442
	WORKS FOR WHICH REVENUE ACCOUNTS ARE KEPT.									
14	Lower Sutlej Inundation Canal.	400	807	...	1805	Were in operation prior to annexation of the Punjab by the British.	...	...	75,14,260	...
15	Muzaffargarh Inundation Canals.	417	740	...	1806	...	...	...	79,27,300	...
16	Chenab Inundation Canals.	267	68	...	1805	...	...	...	60,02,447	...
	Total Provincial	1,084	1,110	...	...	...	...	...	1,28,43,906	...
17	Shahpur Canal	56	52	...	...	...	...	...	2,54,860	...
18	Ravi Canal	...	...	...	...	...	...	...	2,54,860	...
	Total	...	56	52	...	...	...	...	2,54,860	...

\*Opened as an Inundation Canal in 1857  
(a) Includes 4 miles and (b) 45 miles of

C.

WORKS FOR, AND UP TO THE END OF, 1916-17.

FINANCIAL RESULTS OF THIS YEAR 1916-17.										
Gross receipts (direct and indirect), 11	Working expenses (direct and indirect), 12	Net revenue, 13	Percentage on Capital outlay, column 7. 14	Percentage on sum of charge, column 10. 15	Interest at 3% p.a. per cent. on direct Capital outlay to end of previous year, plus half the outlay of the year. 16	Net profit, 17	Net loss, 18	Area irrigated, 19	Percentage of working expenses to receipts (column 11 to column 12), 20	
									Rs.	Acres.
Rs.	Rs.	Rs.	%	%	Rs.	Rs.	Rs.	Acres.	%	
81,51,750	10,50,021	17,95,729	10.15	10.15	3,56,529	12,89,200	...	748,588	43.02	
1,338	62,410	-61,074	5.26	5.26	...	...	81,074	70,869	4071.040	
43,63,676 72,528	13,87,160 4,83,188	29,76,528 -4,09,607	11.63 2.86	11.63 2.86	8,03,114 ...	21,78,412 ...	4,08,007	8,91,781 5,83,959	31.78 50.477	
52,05,561	11,19,126	87,69,789	17.35	17.35	6,96,049	30,98,089	...	12,01,297	27.24	
9,63,693	0,26,356	9,38,537	1.65	1.33	6,99,582	...	3,55,145	5,14,938	64.91	
23,63,530	8,39,261	17,23,266	4.69	4.15	11,20,548	6,04,788	...	4,37,477	32.63	
1,68,30,103	27,10,783	1,41,10,320	43.61	39.81	10,81,069	1,30,78,352	...	22,86,729	16.16	
43,091	0,40,795	5,57,164	1.27	1.05	18,94,260	...	19,51,424	1,17,005	766.21	
47,38,693	9,93,962	37,54,631	23.56	23.56	5,12,831	32,41,710	...	8,04,781	20.76	
6,08,894	4,41,038	1,67,397	9.19	9.19	56,631	1,10,762	...	8,18,151	72.50	
5,80,749	1,62,012	4,80,737	32.23	82.25	42,023	3,69,114	...	2,06,556	20.96	
5,28,400	3,95,601	1,29,703	4.85	8.81	65,519	34,180	...	2,65,158	76.44	
3,90,31,912	1,03,70,471	2,66,61,441	12.89	11.93	70,03,847	2,39,94,163	26,00,580	78,60,039	27.68	
73,862	5,44,543	-4,70,081	3.04	3.04	...	...	2,15,57,694 4,70,681	0,18,828	737.24	
1,15,018	47,177	07,843	81.42	31.42	0,588	01,055	..	46,769	41.01	
21,850	80,460	-8,630	2.29	.69	12,013	...	20,678	23,327	189.49	
...	3,105	-3,105	1.09	1.09	...	...	3,105	12,040	..	
1,36,868	77,055	69,213	10.00	3.66	18,531	01,055 40,388	20,073 3,105	75,096	55.73	
...	8,105	-3,105	1.09	1.09	...	...	13,040	..	..	
6,28,728	2,89,727	3,87,601	..	..	...	3,87,001	...	8,63,864	38.25	
7,53,898	3,51,420	4,02,472	..	..	...	4,02,472	..	3,98,458	46.61	
4,43,797	1,66,784	2,68,038	..	..	...	2,68,033	..	2,05,075	35.09	
18,21,423	7,46,917	10,77,506	..	..	...	10,77,506	..	9,67,417	40.93	
45,465	47,609	2,144	..	..	..	2,144	..	31,404	104.71	
3,222	2,401	618	..	..	618	..	..	..	74.61	
48,087	50,018	-1,926	..	..	..	618	2,144	31,404	103.73	

and as a Perennial Canal in 1892,  
the Lower Chautang Nala Canal.

## III.C.

STATEMENT SHOWING DEMANDS AND REALIZATIONS IN THE PUNJAB PROVINCE  
FOR THE YEAR 1916-17.

Name of Canal.	Balance of demands remaining unrealized at the commencement of the year.	Demands during the year.		Deducted remissions not including cash refunds.	Net amount.	Actual realizations.	Amount unrealized at the close of the year.
		1	2				
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
<b>XXIX—MAJOR WORKS—DIRECT RECEIPTS.</b>							
Water or occupier's rate.							
Western Jumna Canal ...	1,493	28,32,402	28,33,001	44,077	27,69,224	27,79,447	9,777
Sirhind Canal ...	1,35,496	39,74,458	41,09,054	1,32,891	39,77,063	39,53,065	23,098
Upper Bari Doab Canal ...	14,966	43,05,367	43,20,323	97,292	42,23,031	42,07,119	15,912
Lower Bari Doab Canal ...	4,516	11,70,077	14,74,593	7,37,990	7,30,601	7,31,730	1,864
Upper Chenab Canal ...	5,973	23,23,417	26,29,800	2,05,003	23,24,097	22,85,045	38,042
Lower Chenab Canal ...	—1,593	67,31,433	67,29,860	63,810	80,66,521	80,63,030	3,495
Upper Jhelum Canal ...	...	1,49,293	1,49,297	71,697	70,599	74,793	1,806
Lower Jhelum Canal ...	5,737	29,12,064	29,17,801	2,421	29,15,377	29,10,119	5,258
Sidhuwal Canal ...	3,173	4,54,110	4,57,293	...	4,57,292	4,54,164	3,123
Upper Sutlej Inundation Canals ...	6,069	4,04,760	4,09,692	21,891	3,81,938	3,78,000	6,869
Indus Inundation Canals ...	63,720	2,38,906	2,02,026	10	2,02,007	(a) 2,49,337	43,270
Total occupier's rates ...	2,25,556	2,79,95,289	2,62,93,645	13,80,612	2,69,13,333	2,66,89,824	1,55,609
Owner's rate.							
Lower Chenab Canal ...	...	20,512	20,512	...	20,512	6,829	14,213
<b>XXX—MINOR WORKS AND NAVIGATION.</b>							
Lower Sutlej Inundation Canals ...	177	2,94,100	2,91,377	...	2,91,377	2,91,210	67
Muzaffargarh Inundation Canals ...	167	3,25,320	3,25,407	33	3,25,374	3,22,855	2,710
Chenab Inundation Canals ...	3,205	1,91,378	1,97,683	...	1,97,683	1,93,726	3,856
Hajliwal Canal ...	...	22,424	22,424	...	22,424	22,424	..
Shalpur Inundation Canals ...	—10	84,529	84,510	4214	80,905	80,915	—10
Ghaggar Inundation Canals ...	...	21,578	21,578	2,698	21,880	21,847	88
Total ...	8,669	9,45,229	9,45,758	6,916	9,41,813	9,35,176	6,667
<b>PROVINCIAL.</b>							
Shabpur Canal ...	43	31,845	31,889	...	31,888	31,882	—4
Ravi Canal ...	...	...	...	...	...	...	...
Total ...	43	31,845	31,889	...	31,888	31,882	—4

(a) Includes Rs. 65,094 on account of Dhuudi Estate.

## IV C.

STATEMENT SHOWING THE FINANCIAL RESULTS OF THE IRRIGATION WORKS IN THE PUNJAB PROVINCE FOR THE YEAR 1916-17, BASED ON ASSESSMENTS OF THE YEAR 1916-17 AND FINANCIAL RESULTS OF THE OPERATIONS FOR THE YEAR ENDING 31ST MARCH 1917.

IRRIGATION WORKS	Capital outlay direct and indirect to end of the year 1916-17	REVENUE ASSESSED DURING THE YEAR.										Working expenses direct and indirect	Net assessed revenue of the year	Percentage on capital outlay to end of the year	
		DIRECT ASSESSED REVENUE.						Indirect charges	Grand total						
		Debtors' rate	Owners' rate	Plantation	Water power	Navigation	Miscellaneous		10	11	12	13	14		
1	2	3	4	5	6	7	8	9	10	11	12	13	14		
<b>PRODUCTIVE WORKS.</b>															
Western Jumna Canal	1,70,03,766	27,41,603	...	22,830	3,320	73,500	65,302	20,00,735	1,05,310	31,15,015	18,60,021	17,40,021	0.94		
Including Shivali Branch.	11,60,479	2,78,375	...	335	273	...	3,169	2,82,072	...	2,82,072	1,62,087	1,76,435	18.69		
Sirhind Canal	2,56,02,813	38,84,303	...	31,341	1,03,000	9,205	1,25,530	36,01,832	1,42,781	60,41,723	19,87,150	25,57,573	0.90		
Contribution	1,43,17,250	23,17,600	...	20,821	41,730	5,310	23,310	21,23,955	...	21,23,955	9,43,063	14,80,823	10.34		
Upper Bari Doab Canal	...	2,18,37,369	41,21,050	...	23,933	1,10,457	...	1,07,937	41,50,350	6,00,873	61,30,231	14,10,120	37,16,105	18.92	
Lower "	"	2,18,74,263	10,77,410	...	3,073	...	...	21,403	11,04,893	2,02,921	18,07,819	8,20,308	8,81,403	3.11	
Upper Chenab Canal	...	3,63,42,181	22,67,410	...	421	...	...	22,478	23,11,312	8,88,887	25,96,290	8,88,887	20,96,036	5.82	
Lower "	"	8,21,85,818	63,82,146	- 8,912	16,070	- 14,420	...	67,012	91,71,015	74,10,563	1,58,03,178	27,10,783	1,31,23,303	40.71	
Upper Jhelam Canal	...	4,39,49,917	3,01,100	...	2	...	...	8,831	3,69,043	...	3,00,013	6,40,705	- 2,70,832	- 0.63	
Lower "	"	1,59,30,108	27,31,670	...	4,210	32,077	...	50,871	27,06,634	17,81,683	45,00,517	9,83,082	15,70,855	22.14	
Upper Sutlej Irrigation Canals	18,10,515	4,64,149	...	5,078	...	...	6,850	4,10,110	3,73,450	6,42,500	4,41,399	2,01,109	11.03		
Sidhwan Irrigation Canal	13,35,400	4,00,853	...	237	...	...	4,358	5,01,468	1,31,011	6,02,812	1,68,012	4,73,600	85.47		
Indus Irrigation Canals	20,63,361	2,27,705	...	2,827	...	...	60,830	2,80,931	2,73,500	6,63,431	3,98,004	1,64,837	10.53		
<b>TOTAL</b>	<b>Imperial</b>	<b>22,00,10,103</b>	<b>3,63,63,837</b>	<b>- 0,012</b>	<b>1,16,492</b>	<b>3,74,150</b>	<b>63,381</b>	<b>0,01,490</b>	<b>2,71,30,137</b>	<b>1,10,10,403</b>	<b>3,00,25,504</b>	<b>1,03,50,471</b>	<b>3,60,86,123</b>	<b>12.73</b>	
	<b>Contribution</b>	<b>1,51,77,107</b>	<b>25,05,863</b>	<b>...</b>	<b>21,166</b>	<b>45,033</b>	<b>6,340</b>	<b>39,838</b>	<b>27,06,059</b>	<b>...</b>	<b>37,03,933</b>	<b>10,46,700</b>	<b>18,50,258</b>	<b>10.73</b>	
<b>WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.</b>															
Shahpur Canals	...	2,16,011	1,69,490	...	25	...	...	5	1,09,617	42,082	1,51,590	47,126	1,01,421	48.93	
Ghaggar Canals	...	3,76,129	52,673	...	...	...	...	3	24,578	...	23,678	30,480	- 7,002	- 210	
Contribution	2,85,442	27,016	...	...	...	...	...	1337	27,063	...	27,053	28,130	10,623	0.7	
<b>TOTAL</b>	<b>Imperial</b>	<b>5,02,011</b>	<b>1,32,001</b>	<b>...</b>	<b>25</b>	<b>...</b>	<b>...</b>	<b>7</b>	<b>1,32,095</b>	<b>45,082</b>	<b>1,71,177</b>	<b>27,065</b>	<b>90,622</b>	<b>10.30</b>	
	<b>Contribution</b>	<b>2,85,412</b>	<b>27,016</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>337</b>	<b>27,063</b>	<b>...</b>	<b>27,053</b>	<b>8,130</b>	<b>10,623</b>	<b>0.61</b>	
<b>WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.</b>															
Lower Sutlej Irrigation Canals	...	3,61,272	...	2,485	...	...	2,046	3,56,532	3,05,700	6,01,653	2,30,727	4,21,825	...		
Chenab Irrigation Canals	...	2,14,431	...	1,003	...	...	1,010	2,17,013	2,40,793	4,64,793	1,65,761	3,09,074	...		
Muzaffargarh Irrigation Canals	...	3,22,057	...	12,117	...	...	3,550	3,37,630	4,10,010	7,54,240	3,61,420	4,02,823	...		
<b>Total</b>	<b>...</b>	<b>8,99,650</b>	<b>...</b>	<b>10,616</b>	<b>...</b>	<b>...</b>	<b>8,860</b>	<b>9,11,425</b>	<b>9,00,114</b>	<b>18,60,550</b>	<b>7,40,017</b>	<b>11,33,022</b>	<b>...</b>		
<b>PROVINCIAL WORKS FOR WHICH ONLY INVESTED ACCOUNTS ARE KEPT.</b>															
Shahpur Canals	...	...	40,000	...	...	...	...	600	60,100	30,036	71,042	47,400	33,438	...	
Ravi Irrigation Canals	...	...	...	...	...	...	...	...	...	8,333	8,222	8,401	818	...	
<b>Total</b>	<b>...</b>	<b>...</b>	<b>40,000</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>600</b>	<b>60,100</b>	<b>24,100</b>	<b>73,260</b>	<b>50,015</b>	<b>34,358</b>	<b>...</b>	

\*Includes Rs. 0,026 spent by the Bikanor State.

†Figures reported by the Bikanor State.

## STATEMENT OF TRAFFIC ON CANALS IN THE PUNJAB DURING THE YEAR 1916-17.

Particulars.	Western Jumna Canal.	Sirhind Canal.	
Length of channel open for navigation ...	... Miles	121	138
<b>Receipts—</b>			
Tollage on private boats ...	... Rs.	...	2,622
" " Government boats	... "	...	70
" " rafts	... "	73,586	12,449
<b>Carrying operations or transport service—</b>			
Hire of Government boats	... "	...	...
Refund of revenue	... "	...	...
<b>Total receipts</b>	... "	78,586	15,141
<b>Maintenance charges, including special Navigation Establishment</b>	"	5,357	3,627
<b>Net Revenue of year</b>	... "	68,229	11,514
Total number of boats plying cargo	...	...	...
" " " passengers	...	...	...
Total registered tonnage cargo	...	...	...
" " " passengers	...	...	...
<b>Ton mileage, Up (a)</b>	...	...	...
<b>Down</b>	...	...	...
	<b>Total</b>	...	...
<b>Estimated value of cargoes, Up (a)</b>	... Rs.	...	...
" " " Down	... "	...	...
	<b>Total</b>	...	...
<b>Number of passengers</b>	...	...	18,409
<b>Rafts, Up</b>	... C. ft.	...	...
" Down	... "	3,305,050	1,284,072
	<b>Total</b>	...	3,305,050
<b>Estimated value of rafts</b>	... Re.	88,80,944	9,24,557
<b>Tollage on boats per ton per mile (a)</b>	...	...	...
" " rafts per 100 c. ft. ...	...	2-23	0-97

(a) Details of boat traffic are not recorded (Government of India, Public Works Department, No. 76-I, dated 22nd April 1892).

II D.

DESCRIPTION AND QUANTITIES OF RAFT TRAFFIC ON CANALS IN THE PUNJAB DURING THE YEAR 1916-17.

Particulars.	WESTERN JUMNA CANAL.						SARDOY CANAL.						TOTAL.						
	TOTAL.			Private.			TOTAL.			PRIVATE.			TOTAL.			PRIVATE.			
	Quantity in tons.	Value.	Quantity.	Value.	Quantity in tons.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
RAFFS.	Up.	Down.	Total.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Timber in logs, round and squared	...	194	124	7,440	124	7,440	...	630	630	4,7110	631	42,750	...	774	62,650	735	61,250		
Sleepers, broad gauge	...	35,352	35,352	25,80,533	35,352	25,31,533	...	19,659	19,659	6,77,531	17,830	6,72,503	...	53,431	35,14,054	63,252	35,05,341		
" " metric ",	...	12,750	12,750	7,51,054	12,750	7,51,054	...	3,632	3,632	95,338	3,704	91,510	...	16,152	10,432	8,80,380	16,384	8,85,094	
Scantlings	...	...	...	14,310	14,310	2,95,917	14,310	2,95,917	...	1,552	1,552	1,820	1,04,760	...	16,162	4,02,417	16,130	4,00,617	
Bamboos and reeds	...	...	...	...	...	...	...	...	...	6	90	...	...	...	6	6	90	6	
Firewood	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Total	...	62,650	62,580	39,90,014	62,356	38,30,914	...	21,200	21,200	9,34,557	23,051	9,15,218	...	80,705	80,705	45,05,601	80,507	47,90,163	

I.E. with Appendix A.

STATEMENT OF AREAS IRRIGATED BY IRRIGATION WORKS IN THE PUNJAB DURING THE YEAR 1916-17.

NAME OF CANALS.	AREA IRRIGATED, IN ACRES.			AVERAGE DISCHARGE, IN CUBICS.			AREA IRRIGATED, PER CUBE.		
	NAME OF WORK.	KHAIR.	RABI.	TOTAL.			DOCKED CHANNEL.	AT HEAD <sup>less</sup> TODAY'S HEADS.	AT DISTRICT HEADS.
				IRRIGATED.	NON-IRRIGATED.	FLOW.	RIHT.		
1	2	3	4	5	6	7	8	9	10
<b>Major Irrigation Works.</b>									
Western Jarrow Canal (including Sirsa Branch, Ichal and Patow).	161	178	317,913	3,43,674	1,40,744	5,89,935	4,21,157	817,235	11,129
Sirhind Canal (1 mile).	125	154	331,299	3,29,776	1,71,191	3,22,763	1,61,784	859,124	3,257
" (Patiala, N.W.M., Sialkot, Jhel, Sialkot).	65	1	125	124	211,14	210,145	211,277	211,275	2,91,010
Upper Ravi Durb Canal.	10	9	142	579,269	61,124	617,453	1,201,57	1,17,22,221	1,451,224
Lower Ravi Durb Canal.	171	172	214,413	150,125	228,419	1,12,716	61,4,911	272,911	615,507
Upper Chenab Canal.	101	102	1,25,917	270,479	161,69	137,704	4,7,477	117,493	131,711
Lower Chenab Canal.	117	121	71,270	712,12	1,271,479	1,2,4,429	2,229,474	2,155,513	24,914
Upper Jhelum Canal.	16	17	42,413	42,413	75,104	72,117	117,243	119,189	117,043
Lower Jhelum Canal.	165	172	23,417	21,113	21,113	21,113	22,471	22,471	22,471
Upper Sutlej Canal.	147	152	132,570	142,352	160,751	140,91	31,4161	362,917	316,465
Sutlej Canal.	63	145	111,233	98,923	123,473	120,039	229,438	219,197	211,95
Indus Irrigation Canals.	112	125	159,914	140,410	81,217	67,910	210,453	203,359	212,571
Total.	"	"	3,431,657	3,212,024	1,52,120	1,753,132	8,102,387	7,029,695	8,102,387
<b>Minor Irrigation Works.</b>									
Saboor (Imperial) Irrigation Canals	170	"	12,958	10,607	25,650	25,671	60,750	11,291	10,707
Qilaqar Irrigation Canals (Bilaspur)	67	67	10,237	9,124	18,499	12,379	28,37	23,227	23,227
" " (Bilaspur)	36	36	3,234	3,234	9,756	6,994	12,761	16,252	19,910
Lower Sutlej Irrigation Canals.	151	159	113,627	127,492	214,911	14,4,123	5,3,44	312,526	21,073
Chaubh Irrigation Canals.	10	7	13,576	76,55	111,719	11,1171	26,747	1,0,711	17,8,374
Mohali Irrigation Canals.	170	17	160,639	155,623	224,679	215,619	255,453	270,672	229,115
Shalpur (Provincial) Irrigation Canals	122	122	6,455	6,719	21,519	23,723	31,404	29,715	31,304
Total.	"	"	472,358	397,452	630,660	635,015	1,035,957	932,697	1,035,957

**APPENDIX A TO STATEMENT I. E.**  
**STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED**  
**DURING THE YEAR 1916-17.**

CAUSE OF REMISSION.	KHARF, 1916.				RABI, 1916-17.			
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
1	2	3	4	5	6	7	8	9
WESTERN JUMNA CANAL.								
1. Wrong assessment	...	...	Acres.	Acres.	Acres.	Acres.	Acres.	...
2. Escape irrigation	...	...	53	...	...	53	...	...
3. Under Tenancy Rules	...	...	210	...	...	16	...	...
4. Short supply	...	...	1	...	...	1	...	...
5. Hail	...	...	2,110	...	...	1,000	...	...
6. Frost	...	...	5	...	...	...	...	...
7. High wind	...	...	...	...	...	...	...	...
8. Flooding { (a) by heavy rain	...	...	847	...	...	90	...	...
8. Flooding { (b) from canal	...	...	31	...	...	17	...	...
9. Rats	...	...	...	...	...	...	...	...
10. Locusts	...	...	88	...	...	204	...	...
11. Other insects and blight	...	...	910	...	...	51	...	...
12. Bad germination or cultivation	...	...	414	...	...	18	...	...
13. Bad soil	...	...	21	...	...	...	...	...
14. High land	...	...	...	...	...	...	...	...
15. Miscellaneous	...	...	123	...	...	362	...	...
Total	...	312,058	(A) 1,855	317,913	1.09	478,063	(A) 1,879	450,611
SIRHIND CANAL (IMPERIAL).								
1. Wrong assessment	...	...	10	...	...	19	...	...
2. Escape irrigation	...	...	...	...	...	...	...	...
3. Under Tenancy Rules	...	...	...	...	...	4,501	...	...
4. Short supply	...	...	23	...	...	596	...	...
5. Hail	...	...	22	...	...	38	...	...
6. Frost	...	...	...	...	...	13	...	...
7. High wind	...	...	29	...	...	...	...	...
8. Flooding { (a) by heavy rain	...	...	23	...	...	20	...	...
8. Flooding { (b) from canal	...	...	3	...	...	...	...	...
9. Rats	...	...	...	...	...	...	...	...
10. Locusts	...	...	11	...	...	...	...	...
11. Other insects and blight	...	...	2,104	...	...	495	...	...
12. Bad germination or cultivation	...	...	23	...	...	31	...	...
13. Bad soil	...	...	...	...	...	3	...	...
14. High land	...	...	...	...	...	1,740	...	...
15. Miscellaneous	...	...	347	...	...	...	...	...
Total	...	330,776	2,913	333,591	0.81	550,703	7,429	558,191
UPPER BARI DOAB CANAL.								
1. Wrong assessment	...	...	20	...	...	23	...	...
2. Escape irrigation	...	...	...	...	...	...	...	...
3. Under Tenancy Rules	...	...	49	...	...	12,511	...	...
4. Short supply	...	...	...	...	...	1,376	...	...
5. Hail	...	...	...	...	...	...	...	...
6. Frost	...	...	...	...	...	...	...	...
7. High wind	...	...	...	...	...	160	...	...
8. Flooding { (a) by heavy rain	...	...	6,102	...	...	81	...	...
8. Flooding { (b) from canal	...	...	...	...	...	...	...	...
9. Rats	...	...	...	...	...	...	...	...
10. Locusts	...	...	55	...	...	...	...	...
11. Other insects and blight	...	...	5,193	...	...	41	...	...
12. Bad germination or cultivation	...	...	69	...	...	2	...	...
13. Bad soil	...	...	42	...	...	137	...	...
14. High land	...	...	...	...	...	174	...	...
15. Miscellaneous	...	...	663	...	...	...	...	...
Total	...	554,735	14,666	569,303	2.61	617,193	14,509	631,991
LOWER BARI DOAB CANAL.								
1. Wrong assessment	...	...	131	...	...	79	...	...
2. Escape irrigation	...	...	...	...	...	...	...	...
3. Under Tenancy Rules	...	...	92,100	...	...	80,207	...	...
4. Short supply	...	...	607	...	...	7,818	...	...
5. Hail	...	...	...	...	...	873	...	...
6. Frost	...	...	...	...	...	...	...	...
7. High wind	...	...	...	...	...	...	...	...
8. Flooding { (a) by heavy rain	...	...	126	...	...	...	...	...
8. Flooding { (b) from canal	...	...	59	...	...	10	...	...
9. Rats	...	...	...	...	...	20	...	...
10. Locusts	...	...	...	...	...	...	...	...
11. Other insects and blight	...	...	1,616	...	...	64	...	...
12. Bad germination or cultivation	...	...	2,284	...	...	5,683	...	...
13. Bad soil	...	...	14,426	...	...	18,363	...	...
14. High land	...	...	203	...	...	457	...	...
15. Miscellaneous	...	...	6,775	...	...	9,170	...	...
Total	...	180,125	118,319	219,447	47.05	142,710	123,777	200,493

(A) Detail of area remitted—

		Kharf.	Rabi.
In the four Divisions	...	...	...
In Pathala State	...	4,439	1,824
In Jind State	...	343	13
		176	42
Total	...	4,865	1,879

STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED  
DURING THE YEAR 1916-17—CONTINUED.

CAUSE OF REMISSION.	KHARIF, 1916.					RABI, 1916-17.				
	Area assessed.		Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.		Area remitted.	Total area irrigated.	Percentage remitted.
	2	3				6	7			
<b>UPPER CHENAB CANAL.</b>										
1. Wrong assessment	...	...	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
2. Escape irrigation	...	...	...	...	...	...	...	...	...	...
3. Under Tenancy Rules	...	...	89	...	...	...	...	...	...	...
4. Short supply	...	...	...	...	...	...	...	...	...	...
5. Hail	...	...	730	...	...	...	...	...	...	...
6. Frost	...	...	1,008	...	...	...	...	...	...	...
7. High wind	...	...	...	...	...	...	...	...	...	...
8. Flooding { (a) by heavy rain	...	...	...	...	...	...	...	...	...	...
8. Flooding { (b) from canal	...	...	993	...	...	...	...	...	...	...
9. Rats	...	...	...	...	...	...	...	...	...	...
10. Locusts	...	...	356	...	...	...	...	...	...	...
11. Other insects and blight	...	...	...	...	...	...	...	...	...	...
12. Bad germination or cultivation	...	...	690	...	...	...	...	...	...	...
13. Bad soil	...	...	2,027	...	...	...	...	...	...	...
14. High land	...	...	...	...	...	...	...	...	...	...
15. Miscellaneous	...	...	...	...	...	...	...	...	...	...
16. Perpetual revision	...	...	616	...	...	...	...	...	...	...
17. Deg Nalash	...	...	...	...	...	...	...	...	...	...
Total	...	270,479	6,488	285,917	2.25	187,014	18,646	161,560	9.0	
<b>LOWER CHENAR CANAL.</b>										
1. Wrong assessment	...	...	...	...	...	...	...	...	...	...
2. Escape irrigation	...	...	...	...	...	...	...	...	...	...
3. Under Tenancy Rules	...	...	...	...	...	...	...	...	...	...
4. Short supply	...	...	...	...	...	...	...	...	...	...
5. Hail	...	...	110	...	...	...	...	...	...	...
6. Frost	...	...	107	...	...	...	...	...	...	...
7. High wind	...	...	...	...	...	...	...	...	...	...
8. Flooding { (a) by heavy rain	...	...	...	...	...	...	...	...	...	...
8. Flooding { (b) from canal	...	...	668	...	...	...	...	...	...	...
9. Rats	...	...	8	...	...	...	...	10	...	...
10. Locusts	...	...	112	...	...	...	...	2	...	...
11. Other insects and blight	...	...	8	...	...	...	...	...	...	...
12. Bad germination or cultivation	...	...	516	...	...	...	...	78	...	...
13. Bad soil	...	...	340	...	...	...	...	1,682	...	...
14. High land	...	...	186	...	...	...	...	2,957	...	...
15. Miscellaneous	...	...	...	...	...	...	...	155	...	...
Total	...	712,126	3,145	715,270	0.44	1,508,249	63,110	1,571,460	4.01	
<b>UPPER JHELUM CANAL.</b>										
1. Wrong assessment	...	...	...	...	...	...	...	...	...	...
2. Escape irrigation	...	...	...	...	...	...	...	...	...	...
3. Under Tenancy Rules	...	...	...	...	...	...	...	...	...	...
4. Short supply	...	...	...	...	...	...	...	...	...	...
5. Hail	...	...	...	...	...	...	...	...	...	...
6. Frost	...	...	...	...	...	...	...	...	...	...
7. High wind	...	...	...	...	...	...	...	...	...	...
8. Flooding { (a) by heavy rain	...	...	...	...	...	...	...	...	...	...
8. Flooding { (b) from canal	...	...	171	...	...	...	...	151	...	...
9. Rats	...	...	111	...	...	...	...	...	...	...
10. Locusts	...	...	...	...	...	...	...	...	...	...
11. Other insects and blight	...	...	...	...	...	...	...	...	...	...
12. Bad germination or cultivation	...	...	25	...	...	...	...	...	...	...
13. Bad soil	...	...	29	...	...	...	...	...	...	...
14. High land	...	...	...	...	...	...	...	126	...	...
15. Miscellaneous	...	...	56	...	...	...	...	130	...	...
Total	...	42,012	401	42,413	0.01	72,177	3,015	75,102	0.04	
<b>LOWER JHELUM CANAL.</b>										
1. Wrong assessment	...	...	...	...	...	...	...	...	...	...
2. Escape irrigation	...	...	...	...	...	...	...	...	...	...
3. Under Tenancy Rules	...	...	...	...	...	...	...	...	...	...
4. Short supply	...	...	1,064	...	...	...	...	...	...	...
5. Hail	...	...	9	...	...	...	...	...	...	...
6. Frost	...	...	2	...	...	...	...	...	...	...
7. High wind	...	...	...	...	...	...	...	...	...	...
8. Flooding { (a) by heavy rain	...	...	3	...	...	...	...	...	...	...
8. Flooding { (b) from canal	...	...	...	...	...	...	...	...	...	...
9. Rats	...	...	...	...	...	...	...	...	...	...
10. Locusts	...	...	...	...	...	...	...	...	...	...
11. Other insects and blight	...	...	...	...	...	...	...	...	...	...
12. Bad germination or cultivation	...	...	31	...	...	...	...	...	...	...
13. Bad soil	...	...	1,353	...	...	...	...	493	...	...
14. High land	...	...	101	...	...	...	...	191	...	...
15. Miscellaneous	...	...	...	...	...	...	...	164	...	...
Total	...	237,413	2,634	239,997	1.08	568,871	5,803	584,764	1.03	

STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED  
DURING THE YEAR 1916-17—CONTINUED.

CAUSE OF REMISSION.		KARAK, 1916.				RANI, 1916-17.			
		Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
1	2	3	4	5	6	7	8	9	
<b>UPPER SUTLEJ INUNDATION CANALS.</b>									
1. Wrong assessment	...	...	...	...	...	...	...	...	...
2. Escape irrigation	...	...	...	...	...	...	...	...	...
3. Under Tenancy Rules	...	...	...	...	...	...	...	...	...
4. Short supply	...	...	4,912	...	...	...	...	...	...
5. Hail	...	...	...	...	...	...	...	...	...
6. Frost	...	...	...	...	...	...	...	...	...
7. High wind	...	...	...	...	...	...	...	...	...
8. Flooding { (a) by heavy rain	...	...	...	...	...	...	...	...	...
{ (b) from canal	...	...	5,146	...	...	...	...	...	...
9. Rats	...	...	...	...	...	...	...	...	...
10. Locusts	...	...	...	...	...	...	...	...	...
11. Other insects and blight	...	...	146	...	...	...	...	...	...
12. Bad germination or cultivation	...	...	...	...	...	...	...	...	...
13. Bad soil	...	...	...	...	...	...	...	...	...
14. High land	...	...	...	...	...	...	...	...	...
15. Miscellaneous	...	...	...	...	...	...	...	...	...
Total	...	142 3'6	10,101	152,560	6.7	160,691	...	100,691	...
<b>SIDHNAI CANALS.</b>									
1. Wrong assessment	...	...	...	...	...	...	...	...	...
2. Escape irrigation	...	...	...	...	...	...	...	...	...
3. Under Tenancy Rules	...	...	...	...	...	...	...	...	...
4. Short supply	...	...	4,673	...	...	...	...	23,166	...
5. Hail	...	...	...	...	...	...	...	...	...
6. Frost	...	...	...	...	...	...	...	...	...
7. High wind	...	...	...	...	...	...	...	...	...
8. Flooding { (1) by heavy rain	...	...	43	...	...	...	...	...	...
{ (2) from canal	...	...	...	...	...	...	...	...	...
{ (3) from river	...	...	...	...	...	...	...	...	...
9. Rats	...	...	...	...	...	...	...	...	...
10. Locusts	...	...	...	...	...	...	...	...	...
11. Other insects and blight	...	...	71	...	...	...	...	...	...
12. Bad germination or cultivation	...	...	11,173	...	...	...	...	...	...
13. Bad soil	...	...	...	...	...	...	...	7,158	...
14. High land	...	...	...	...	...	...	...	...	...
15. Miscellaneous	...	...	75	...	...	...	...	1,278	...
Total	...	98,506	16,037	114,933	18.95	150,998	82,025	183,628	17.77
<b>INDUS INUNDATION CANALS.</b>									
1. Wrong assessment	...	...	...	...	...	...	...	...	...
2. Escape irrigation	...	...	...	...	...	...	...	...	...
3. Under Tenancy Rules	...	...	...	...	...	...	...	...	...
4. Short supply	...	...	10,606	...	...	...	...	1,504	...
5. Hail	...	...	...	...	...	...	...	1,932	...
6. Frost	...	...	...	...	...	...	...	...	...
7. High wind	...	...	...	1,190	...	...	...	1,872	...
8. Flooding { (1) by rain	...	...	217	...	...	...	...	...	...
{ (2) from canal	...	...	431	...	...	...	...	...	...
{ (3) hill torrent	...	...	1,436	...	...	...	...	...	...
{ (4) from river	...	...	1,571	...	...	...	...	...	...
9. Rats	...	...	...	...	...	...	...	...	...
10. Locusts	...	...	...	...	...	...	...	...	...
11. Other insects and blight	...	...	83	...	...	...	...	781	...
12. Bad germination or cultivation	...	...	...	...	...	...	...	...	...
13. Bad soil	...	...	22,103	...	...	...	...	11,268	...
14. High land	...	...	1,624	...	...	...	...	...	...
15. Fema water	...	...	...	...	...	...	...	...	...
16. Scanty rain	...	...	...	...	...	...	...	93	...
17. Miscellaneous	...	...	...	...	...	...	...	552	...
Total	...	140,470	39,471	179,541	21.93	67,910	17,307	85,217	20.80

STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED  
DURING THE YEAR 1916-17—CONTINUED.

CAUSE OF REMISSION.	KHAUR, 1916.				RABI, 1916-17.			
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
1	2	3	4	5	6	7	8	9
Acre.								
CHENAB INUNDATION CANALS.								
1. Wrong assessment .....	..	..	..	..	..	..	..	..
2. Escape irrigation .....	..	..	..	..	..	..	..	..
3. Under Tenancy Rules .....	..	..	..	..	..	..	..	..
4. Short supply .....	..	..	6,601	..	..	..	..	..
5. Hail .....	..	..	..	..	..	..	..	..
6. Frost .....	..	..	..	..	..	..	..	..
7. High wind .....	..	..	..	..	..	..	..	..
8. Flooding { (1) by rain .....	..	..	..	..	..	..	..	..
{ (2) from canal .....	..	8,872	..	..	..	..	..	..
{ (3) from river .....	..	..	..	..	..	..	..	..
9. Rats .....	..	..	..	..	..	..	..	..
10. Locusts .....	..	..	..	..	..	..	..	..
11. Other insects and blight .....	..	..	..	..	..	..	..	..
12. Bad germination or cultivation .....	..	..	..	..	..	..	..	..
13. Bad soil .....	..	..	17	..	..	..	..	..
14. High land .....	..	..	6,415	..	..	..	..	..
15. Miscellaneous .....	..	..	62	..	..	..	..	..
Total	..	76,553	17,004	21.6%	101,171	7,937	111,518	6.5%
LOWER SUTLEJ INUNDATION CANALS.								
1. Wrong assessment .....	..	..	..	..	..	..	..	..
2. Escape irrigation .....	..	..	..	..	..	..	..	..
3. Under Tenancy Rules .....	..	..	..	..	..	..	..	..
4. Short supply .....	..	..	..	..	..	..	..	..
5. Hail .....	..	..	..	..	..	..	..	..
6. Frost .....	..	..	..	..	..	..	..	..
7. High wind .....	..	..	..	..	..	..	..	..
8. Flooding { (a) by heavy rain .....	..	..	6,697	..	..	..	..	..
{ (b) from canal .....	..	42	..	..	..	..	..	..
9. Rats .....	..	..	..	..	..	..	..	..
10. Locusts .....	..	..	..	..	..	..	..	..
11. Other insects and blight .....	..	..	..	..	..	..	..	..
12. Bad germination or cultivation .....	..	..	108	..	..	..	..	..
13. Bad soil .....	..	..	260	..	..	..	..	..
14. High land .....	..	..	12,862	..	..	..	..	..
15. Miscellaneous .....	..	..	1,454	..	..	..	..	..
Total	..	127,102	21,881	16.9%	193,421	21,300	214,811	9.9%
MUZAFFARGARH INUNDATION CANALS.								
1. Wrong assessment .....	..	..	..	..	..	..	..	..
2. Escape irrigation .....	..	..	..	..	..	..	..	..
3. Under Tenancy Rules .....	..	..	..	..	..	..	..	..
4. Short supply .....	..	..	6,410	..	..	..	..	..
5. Hail .....	..	..	..	..	..	..	..	..
6. Frost .....	..	..	..	..	..	..	..	..
7. High wind .....	..	..	..	..	..	..	..	..
8. Flooding { (a) by heavy rain .....	..	..	2,400	..	..	..	..	..
{ (b) from canal .....	..	..	..	..	..	..	..	..
9. Rats .....	..	..	..	..	..	..	..	..
10. Locusts .....	..	..	..	..	..	..	..	..
11. Other insects and blight .....	..	..	..	..	..	..	..	..
12. Bad germination or cultivation .....	..	..	615	..	..	..	..	..
13. Bad soil .....	..	..	4,176	..	..	..	..	..
14. High land .....	..	..	8,046	..	..	..	..	..
Total	..	155,023	14,656	9.6%	215,049	13,720	228,769	6.0%

STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED  
DURING THE YEAR 1916-17—CONCLUDED.

CAUSE OF REMISSION.	KHANJIP, 1916.				RABJ, 1916-17.				
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	
1	2	3	4	5	6	7	8	9	
<b>SHAPUR IMPERIAL CANALS.</b>									
1. Wrong assessment	...	...	...	...	...	...	...	...	
2. Escape irrigation	...	...	...	...	...	...	...	...	
3. Under Tenancy Rules	...	...	...	...	...	...	...	...	
4. Short supply	...	...	...	...	...	...	...	...	
5. Hail	...	...	...	...	...	...	...	...	
6. Frost	...	...	...	...	...	...	...	...	
7. High wind	...	...	...	...	...	...	...	...	
8. Flooding { (a) by heavy rain	...	...	...	...	...	...	...	...	
8. Flooding { (b) from canal	...	44	...	...	...	...	...	...	
9. Rats	...	...	...	...	...	...	...	...	
10. Locusts	...	...	...	...	...	...	...	...	
11. Other insects and blight	...	163	...	...	...	...	...	...	
12. Bad germination or cultivation	...	160	...	...	...	...	...	...	
13. Bad soil	...	...	...	...	...	...	...	...	
14. High land	...	...	...	...	...	...	...	...	
15. Miscellaneous	...	...	...	...	...	1,412	...	...	
Total	...	19,307	376	19,683	1·01	25,074	1,412	27,080	5·21
<b>GHAGGAR CANALS.</b>									
1. Wrong assessment	...	...	...	...	...	...	8	...	
2. Escape irrigation	...	...	...	...	...	...	781	...	
3. Under Tenancy Rules	...	...	813	...	...	...	...	...	
4. Short supply	...	...	...	...	...	...	...	...	
5. Hail	...	...	...	...	...	...	...	...	
6. Frost	...	...	...	...	...	...	...	...	
7. High wind	...	...	...	...	...	1,788	...	...	
8. Flooding { (a) by heavy rain	...	...	...	...	...	...	...	...	
8. Flooding { (b) from canal	...	...	...	...	...	...	...	...	
9. Rats	...	...	...	...	...	...	...	...	
10. Locusts	...	...	...	...	...	...	...	...	
11. Other insects and blight	...	...	...	...	...	...	...	...	
12. Bad germination or cultivation	...	...	...	...	...	...	...	...	
13. Bad soil	...	...	...	...	...	...	...	...	
14. High land	...	...	...	...	...	...	...	...	
15. Miscellaneous	...	...	20	...	...	...	...	...	
Total	...	12,058	(A) 833	13,491	6·17	24,804	(B) 2,572	23,976	9·57
<b>SHAPUR PROVINCIAL CANALS.</b>									
1. Wrong assessment	...	...	...	...	...	...	...	...	
2. Escape irrigation	...	...	...	...	...	...	...	...	
3. Under Tenancy Rules	...	...	110	...	...	...	1,133	...	
4. Short supply	...	...	...	...	...	...	...	...	
5. Hail	...	...	...	...	...	...	...	...	
6. Frost	...	...	...	...	...	...	...	...	
7. High wind	...	...	...	...	...	...	...	...	
8. Flooding { (a) by heavy rain	...	...	...	...	...	...	...	...	
8. Flooding { (b) from canal	...	20	...	...	...	...	...	...	
9. Rats	...	...	...	...	...	...	...	...	
10. Locusts	...	...	...	...	...	...	...	...	
11. Other insects or blight	...	...	...	...	...	...	...	...	
12. Bad germination or cultivation	...	...	...	...	...	...	300	...	
13. Bad soil	...	...	...	...	...	...	...	...	
14. High land	...	...	...	...	...	...	...	...	
15. Miscellaneous	...	...	...	...	...	...	...	...	
Total	...	8,710	180	8,655	2·0	23,020	1,523	24,549	6·3
						(A)	(B)		
British	...	...	...	...	...	813	784		
B.Kaner	...	...	...	...	...	20	1,788		
Total	...	833	...	2,572					

STATEMENT SHOWING INCIDENCE OF WORKING EXPENSES AND ASSESSED WATER REVENUE ON THE CANALS IN THE PUNJAB DURING 1916-17.

II-E. WATER-RATE ASSESSMENT IN 1916-17.

Names of Canals.	Working Expenses.						Occurrences' Rates.						Total Water Rate Direct and Indirect.		
	Direct	Indirect	Total direct and indirect.	Gross revenue from all sources.	Per cent assessed during 1916-17.	Per cent on gross revenue.	Per cent of dis-charge.	Per cent assessed.	Per cent of dis-charge.	Per cent of dis-charge.	Per cent of dis-charge.	Per cent assessed.	Per cent of dis-charge.	Per cent of dis-charge.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
<b>Major Irrigation Works.</b>															
Western Jumna Canal (including Sirsa Branch, British and Patiala).	3,052	30,19,863	30,19,863	30,19,863	32,28,163	33,37,117	14,50,618	831,723	43,97	177	478	268	889	393	
Sirhind Canal (British).	...	...	3,360	35,31,458	35,81,368	1,42,791	36,477,149	30,11,728	13,67,150	561,539	35,16	414	401	1,035	1,057
" (Patiala, Nabha and Jind States) ...	2,182	23,1,390	23,17,560	...	23,17,560	23,17,560	24,23,686	4,43,003	532,050	38,90	177	432	436	1,002	1,098
Upper Beas Doab Canal	...	...	3,540	41,24,059	41,24,059	6,58,873	57,92,931	51,39,331	14,10,120	1,472,291	27,66	121	401	363	1,063
Lower Beas Doab Canal	...	...	2,460	10,77,410	10,77,410	...	3,02,921	12,86,343	13,73,312	6,26,336	272,561	47,89	329	286	1,364
Upper Chenab Canal	...	...	2,629	23,37,410	22,67,410	...	5,84,987	23,72,97	25,96,256	8,18,261	417,393	28,01	200	331	469
Lower Chenab Canal	...	...	7,456	81,52,110	8,912	83,76,284	74,18,563	1,57,35,79	1,55,92,3178	2,220,473	17,11	123	912	377	523
Upper Jhelum Canal	...	...	491	3,01,100	...	3,01,100	...	3,61,100	3,03,043	6,40,795	114,189	173,21	501	1,905	711
Lower Jhelum Canal	...	...	2,602	27,31,070	...	27,31,370	17,64,053	4,45,363	45,60,617	58,39,982	76,28,1	21,57	123	316	716
Upper Sutlej Canals	...	...	2,608	4,04,149	...	4,04,149	9,27,480	6,37,029	6,42,595	4,11,398	308,947	145	165	370	469
Sialkot Canals	...	...	1,396	4,96,863	...	4,90,863	6,23,187	3,32,812	1,59,013	249,601	261,12	933	114	151	505
Indus Irrigation Canals	...	...	3,314	21,27,705	...	21,27,705	3,75,500	6,01,265	6,03,481	3,08,801	268,380	7074	191	120	109
<b>Mixed Irrigation Works.</b>															
Sholapur (Jampur) Irrigation Canals	...	...	570	1,04,480	...	1,04,480	42,082	1,05,568	1,61,598	47,175	44,931	31,11	104	33	243
Ghaggar Irrigation Canals (British)	...	...	745	22,575	...	22,575	22,075	22,578	30,480	10,232	134,03	208	42	220	337
" " (Bikaner) ...	224	227,016	227,016	...	227,016	27,933	27,933	26,130	20,730	25,08	030	35	103	31	31
Lower Sutlej Irrigation Canals	...	...	3,465	3,51,273	...	3,51,273	3,05,700	6,65,972	6,91,353	2,39,727	330,613	36,23	74	118	118
Chenab Irrigation Canals	...	...	5,355	5,11,421	...	5,11,421	2,46,795	4,61,216	4,34,738	1,65,701	186,724	33,51	65	110	100
Mundargarh Irrigation Canals	...	...	5,434	3,22,967	...	3,22,967	4,10,610	7,49,576	7,54,219	3,51,426	376,073	46,39	119	90	103
Shahpur (Provincial) Irrigation Canals	...	...	438	49,359	...	49,359	20,938	70,417	71,047	47,693	29,745	67,01	100	84	134
Ravi Irrigation Canals	...	...	...	...	...	...	3,223	3,223	3,223	2,404	...	74,68	...	114	103
												...	...	...	...

\* Includes Rs. 41,227 actually spent by the Patiala State.

† Rs. 6,026 actually spent by the Bikaner State.

‡ Figures re-arranged by the Haryana State.

III-E.

STATEMENT OF QUANTITY AND VALUE OF CROPS IRRIGATED IN THE  
PUNJAB DURING THE YEAR 1916-17.

## STATEMENT OF QUANTITY AND VALUE OF CROPS

NAME OF CROPS.			WESTERN JUMNA CANAL.		BRAHMIN CANAL (BARRIER).		SHASTRI CANAL (NATIVE STATE BRANCHES).		UPPER BARI DOAB CANAL	
Eng. ch.	Vernacular.	Scientific.	Area assessed to water-rate,	Estimated value.	Area assessed to water-rate,	Estimated value.	Area assessed to water-rate,	Estimated value.	Area assessed to water-rate,	Estimated value.
1	2	3	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.
Cereals—										
Wheat	Gehun	Triticum aestivum	239,270	1,10,13,600	277,692	1,20,60,844	169,851	71,60,738	216,639	1,16,81,333
Barley	Jee	Hordeum vulgare	16,769	5,67,141	5,67,141	21,92,450	62,677	10,30,497	5,572	1,61,975
Rice	Thoma	Oryza sativa	20,818	7,01,092	11	419	4,18,149	51,654	3,67,059	
Maize	Makki	Zea mays	20,231	75,534	17	23,30,772	15,302	21,62,501	21,109	21,62,501
Oats	Jawi	Avena sativa	64,290	16,27,800	892	26,700	14,45,329	8,001	9,01,150	
Mixed Grain	Berm	"	2,765	60,529	"	"	2,358	51,978	2,710	45,45,329
Miscellaneous	"	"								
Millets and pulses—										
Great Millet	Jawar	Zorghum vulgare	100,523	6,39,164	16,078	1,77,050	911	10,331	"	"
Spiked Millet	Bajra	Panicum americanum	16,308	2,02,001	6,931	1,77,578	2,021	81,409	3,710	63,050
Italian Millet	Kauasni	Setaria italica	3	1	3	240	35	2,550	612	15,303
"	Bhandwa	Eleusine coracina	120	2,620	"	"	18	237	"	"
"	Chawal	Brachypodium forficulaceum	"	"	"	"	18	101	"	"
Gram	Chawal	Cicer arietinum	20,225	20,51,907	102,857	10,51,577	25,557	9,45,874	31	660
Lentil	Chawal	Lens culinaris	6,913	1,30,540	183	4,119	177	4,510	17,07,768	
Peas	Chawal	Pisum sativum	1,602	29,061	23	600	41	1,230	"	"
"	Moob	Phaseolus radiatus	45	900	22	600	12	1,169	3	70
"	Mung	Phaseolus mungo	633	11,069	31	620	151	3,029	12,929	
"	Moth	Phaseolus acutifolius	459	7,220	551	1,12,205	286	4,033	4,325	
Guar	Chawal	Crotalaria pectoroides	7,869	1,18,015	28,620	6,07,760	1,142	34,860	15,101	1,75,225
Mixed Grain	Berra	"	"	"	"	"	"	"	10	2,61,425
"	Chawal	Pandanus edulis	"	"	"	"	770	"	53	670
Miscellaneous	Maddal	"	6,858	1,33,200	11	22	22	770	210	6,220
Drugs and Spices—										
Tobacco	Tamaken	Nicotiana tabacum	"	"	"	"	645	"	"	"
Poppies	Post	Papaver somniferum	"	"	"	"	"	"	1,103	13,620
Aniseed and Dill	Airwan	Pimpinella anisum	15,671	1,41,450	35	1,400	19	720	"	"
Fenugreek	Mehi	Foeniculum vulgare	637	20,415	"	"	"	"	21	1,163
Coriander	Dhania	Coriandrum sativum	"	"	"	"	"	"	"	"
Cumin	Zira	Cuminum sativum	"	"	"	"	"	"	1	70
Turmeric	Haldi	Curcuma longa	"	"	"	"	1	46	4	120
Aniseed	Sanai	Pimpinella anisum	"	"	"	"	21	427	4	60
Miscellaneous	Kaenji	"	"	"	"	"	"	"	"	"
Fibres—										
Cotton	Rei	Gossypium herbaceum	62,367	61,72,168	10,702	5,02,974	28,513	18,40,111	147,621	69,25,561
Messilla Hemp	Sanai	Hibiscus cannabinus	231	5,553	5,107	1,02,210	1,155	31,939	63,353	
False Hemp	Nunjkans	Crotalaria juncea	1,951	40,500	"	"	"	"	602	18,003
Miscellaneous	"	"	"	"	"	"	"	"	"	"
Dyes—										
Indigo	Nil	Indigofera tinctoria	11,551	2,53,650	"	"	515	19,075	"	"
Henna	Mehndi	Lawsonia alba	"	"	"	"	"	"	"	"
Safflower	Karsumba	Carthamus tinctorius	236	7,400	"	"	"	"	"	"
Miscellaneous	"	"	"	"	"	"	"	"	"	"
Oil-seeds—										
General or Sesame	Tel	Foeniculum vulgare	125	3,975	59	5,920	18	470	2,251	65,220
Papaya	Barwan	Carica papaya	12,273	3,06,510	2,011	1,75,278	7,297	142,128	8,431	247,437
Do.	Tuna	Do. (Tun, tota)	43	1,075	57	7,425	12	75	7,61,917	
Linseed Flax	Taramira	Erigeron annuus	2	50	232	8,020	478	18,103	477	13,553
Miscellaneous	Ali	Linum usitatissimum	"	"	5	125	12	720	451	16,579
Fruits and Vegetables—										
Orchards	Mirch	Capicum annuum	725	59,000	284	29,400	633	53,300	2,733	1,65,310
Melons	Kharbora	Cucumis melo	1,143	57,479	5,110	2,85,500	1,425	71,300	11,322	4,73,559
Carrots	Gajar	Daucus carota	203	18,000	"	"	177	"	"	"
Cress	Haium	Lepidium sativum	204	8,100	64	1,320	59	1,730	1	33
Onions	Piaz	Allium cepa	22,420	22,900	454	20,400	5	401	44	2,530
Turnips	Palam	Brassica rapa	132	1,670	454	20,400	"	"	8,441	3,85,440
Water-ants	Singhara	Trapa bidentata	6,620	0,65,000	687	70,400	2,342	20,300	8,781	6,69,104
Gardens	Alu	Solanum tuberosum	53	3,873	2,177	1,52,000	410	23,700	3,912	54,400
Potatoes	Tarkari	"	2,221	1,55,470	"	"	"	"	2,71,810	
Vegetables	Lehsan	"	"	"	417	18,410	"	"	1,641	44,434
Miscellaneous	"	"	31	620	"	"	"	"	"	"
Fodder—										
Lucerne Grass	Lusen Ghas	Medicago sativa	1,819	64,820	3	76	125	191	22,860	
"	Sejji	Do. Var.	457	6,785	24,493	42,789	25,228	6,06,620	63,153	27,04,667
Grass	Charhi	"	43	1,073	237	7,410	118	18,360	783	11,743
Millet, etc.	Maiwa	Zea mays	13,104	3,29,150	180,610	54,18,450	113,403	34,02,000	183,037	39,91,710
Sugarcane	Tanna	Saccharum officinarum	92,025	82,53,450	1,704	2,02,410	5,076	6,12,904	42,165	51,70,730
"	Shafat	"	4	60	503	3,552	1,783	10,768	1,515	21,360
Miscellaneous	Methi	"	"	"	"	"	"	"	134	2,680
	Total		101,059	3,61,72,015	600,174	2,03,43,700	624,160	1,05,49,441	1,107,833	4,32,73,047
Fallows			2,737	"	15,743	"	7,914	"	"	"
Single watering			7,149	"	"	"	"	"	2,184	"
Plantations			"	"	"	"	"	"	12,183	"
Miscellaneous			11	"	"	"	"	"	"	"
Waste of water			929	"	2,623	"	"	"	"	"
Palaver			7,660	"	"	"	"	"	"	"
	GRAND TOTAL		621,723	3,61,72,015	601,630	2,03,43,700	532,080	1,05,49,441	1,107,833	4,32,73,047

\*This includes 2,100 acres

E.

## IRRIGATED IN THE PUNJAB DURING THE YEAR 1916-17.

LOWER BARI DOAB CANAL.		UPPER CHENNAI CANAL.		LOWER CHENNAI CANAL.		UPPER JHELM CANAL.		LOWER JHELM CANAL.		UPPER SUTLEJ INFUNDATION CANALS (INCLUDING LOWER SONAG AND PABA).	
Area assessed to water-rates.	Estimated value.	Area assessed to water-rates.	Estimated value.								
12	13	14	15	16	17	18	19	20	21	22	23
Acres.	Rs.	Acres.	Rs.								
101,082	48,45,441	61,490	25,64,871	604,416	1,07,60,722	60,770	22,41,731	500,731	1,35,65,502	54,081	10,67,706
2,914	2,914	6,021	6,110	16,411	3,49,241	2,200	61,190	6,100	2,00,430	1,611	35,412
6,571	3,80,000	201,523	1,02,16,126	12,581	20,64,032	6,110	2,15,212	6,305	3,02,010	20,614	12,52,754
10,480	1,20,703	7,001	1,40,020	10,762	21,62,493	7,673	22,203	17,480	4,02,040	7,010	61,350
532	23,680	17	530	573	21,120	12	451	5,835	6,03,140	605	10,650
1,240	37,200	331	9,900	6,917	1,14,670	265	7,899	64,470	64,470	16,34,100	
...	...	8	107	...	...	...	...	...	...	...	...
50,670	4,63,050	10,010	3,12,288	22,550	5,18,881	6,007	1,47,110	73,614	13,26,832	60,612	12,18,240
4,500	1,14,400	773	18,532	27,000	5,60,221	12,000	2,07,170	51,357	7,68,675	7,857	1,69,688
511	5,693	62	1,360	170	4,750	10	177	7,000	1,491	1,491	37,025
0	0	0	0	0	0	0	0	0	0	0	0
2,970	58,400	7,057	1,67,462	81,566	5,760	31	465	601	18,365	41,000	5,000
63	1,290	260	1,070	2,752	11,12,671	242	1,189	3,090	8,06,180	55,317	6,00,247
1,601	82,621	...	...	3,041	1,01,170	216	6,430	1,324	60,725	178	5,600
601	16,030	...	...	21	630	544	10,200	111	37	37	740
2,889	58,723	11	275	5,871	29,950	22	660	635	19,050	42	1,200
1,601	59,725	491	8,669	4,767	1,14,421	61	210	1,001	25,775	242	6,000
649	13,725	50	1,190	1,200	13,225	69	2,26	2,332	65,900	4,206	85,820
20	820	...	...	4,157	50,140	...	...	5,126	1,02,620	218	3,105
105	8,400	303	31,190	2,610	2,00,900	75	8,000	1,302	1,04,100	7	420
127	3,171	...	...	...	...	...	...	...	...	...	...
12	480	...	...	...	631	22,040	36	1,140	780	22,000	380
122	4,850	...	...	...	84	1,300	...	...	...	325	14,760
1	16	...	...	...	14	210	...	...	...	...	...
39,682	16,25,872	20,893	6,80,203	1,13,467	81,52,010	2,807	87,643	51,641	2,42,712	12,654	6,03,632
181	5,430	57	10,777	1,015	49,030	39	2,670	492	14,780	451	19,630
...	...	...	2,610	2,035	65,750	49	1,470	173	12,000	3	45
21	960	10	360	32	4,120	41	1,230	1	360	85	676
...	...	...	...	13	600	210	131	4,021	...	...	...
7,000	1,83,904	620	14,380	2,113	81,733	1,869	40,329	1,421	38,785	6,200	1,20,060
10,002	29,869	3,727	51,123	65,116	17,16,709	1,829	15,000	5,606	1,59,069	104	2,448
1,134	3,64,416	7,232	1,56,104	2,10,011	65,18,359	1,872	1,17,771	8,012	22,69,630	855	6,490
5	27,210	501	11,022	2,301	61,850	173	2,712	5,683	1,50,321	275	7,000
...	120	64	1,309	1,309	34,031	16	649	3,33	1,321	1	24
...	...	...	...	...	2,060	...	...	...	...	...	...
11	853	24	1,030	680	65,120	...	...	...	...	...	...
6,052	3,04,100	1,612	82,100	65,163	17,58,150	11,080	1,638	16,156	10,801	8,420	12,250
60	2,400	1	40	22	11,080	...	...	10,801	10,801	14,020	14
40	1,470	...	...	...	...	...	...	105	1,470	105	670
10,427	4,17,080	5,610	2,20,610	42,073	21,07,120	2,109	1,17,100	216	42	500	100
...	...	...	...	77	3,560	7	216	43	12,073	4,83,821	...
16	1,800	25	5,100	2,720	2,72,000	11	67,000	67,000	14,39,800	280	23,600
1,163	82,810	603	12,030	7,420	4,80,300	102	7,140	1,083	1,17,810	0	500
...	...	10	670	496	14,620	...	...	120	1,03,000	01	6,740
120	8,500	43	2,150	10,474	9,73,700	5	250	2,622	1,41,800	7	350
1,607	50,010	5,204	1,60,120	60,670	26,80,950	360	10,800	8,441	2,53,620	855	16,650
651	19,620	524	21,220	2,317	87,610	6,655	1,09,800	4,471	1,34,130	16,582	1,35,020
2,700	61,000	11,333	3,02,150	1,96,421	33,82,000	183	3,821	1,253	31,825	...	...
3	75	2,223	5,622	5,622	60,194	291	20,391	8,078	8,67,300	1,009	2,20,125
1,327	1,05,670	7,605	2,0,602	60,141	62,17,100	30	1,600	4,410	2,30,000	174	1,350
415	10,376	85	5,127	6,497	1,62,173	2	75	577	24,125	...	...
40	6,090	...	...	7,232	21,610	6	120	1,600	1,33,000	...	...
268,352	63,80,314	4,05,331	1,64,78,692	2,315,007	8,60,10,215	113,508	30,62,216	711,921	2,53,20,780	302,61	69,53,912
...	...	2,325	...	...	...	...	...	...	...	...	...
8,418	...	6,810	...	6,294	...	...	...	...	...	...	...
40	...	0	105	14	...	050	...	...	...	76	...
...	...	...	...	...	...	...	...	...	...	...	...
273,641	63,98,316	417,303	1,81,78,492	2,320,473	8,60,10,215	114,188	66,62,234	470,920	2,53,20,780	302,61	69,53,912

Submitted under Tenancy Rules.

## STATEMENT OF QUANTITY AND VALUE OF CROPS IRRIGATED

Names of Crops.			SIDHNAU CANAL.		INDRA INFILTRATION CANALS		SHAHPUR (IMPERIAL) INFILTRATION CANALS.		GHAGGAR CANALS (DISTANCE).	
English.	Vernacular.	Scientific.	Area assessed to water-rates.	Estimated value.	Area assessed to water-rates.	Estimated value.	Area assessed to water-rates.	Estimated value.	Area assessed to water-rates.	Estimated value.
1	2	3	24	25	26	27	28	29	30	31
Cereals—										
Wheat	Gobur	Triticum sativum	102,148	48,51,008	49,701	18,02,085	18,820	8,16,747	4,370	2,16,050
Barley	Jn'	Hordeum vulgare	7,985	2,04,400	60,171	30,763	171	4,176	—	—
Rice	Jhona	Oryza sativa	—	—	18	13,41,104	683	22,031	8,003	3,29,384
Maize	Malki	Zea mays	2,607	32,001	—	216	107	2,461	—	—
Oats	Jawi	Avena sativa	—	—	—	—	203	3,045	—	—
Mixed Grain	Terra	—	1,304	16,060	—	—	—	—	7,033	1,90,825
Miscellaneous	—	—	—	—	—	—	—	—	—	—
Millets and Pulses—										
Great Millet	Jawar	Sorghum vulgare	23,301	2,40,815	29,853	6,55,077	6,621	1,25,760	358	1,649
Spiked Millet	Beja	Panicum caput-medusae	3,901	2,39,294	18,577	4,45,545	47,000	—	—	—
Italian Millet	K. nagi	Setaria italica	123	2,460	84	2,520	—	—	—	—
—	Mandwa	Pennisetum sorghum	523	10,470	208	5,500	—	—	—	—
Gram	Sawank	Panicum frumentaceum	—	—	1,041	35,820	62	1,240	92,016	2,990
Lentil	Chana	Cicer arietinum	14,853	2,90,640	8,422	1,68,840	216	3,210	1,07,730	—
Masur	Urad	Phaseolus vulgaris	373	6,803	68	2,610	—	—	—	—
—	Matar	Phaseolus radiatus	307	5,956	—	—	—	—	—	—
Peas	—	Phaseolus vulgaris	701	10,930	4,304	1,06,500	—	—	—	—
—	Methi	Phaseolus mungo	6,721	3,00,610	—	—	—	—	—	—
—	Minh	Phaseolus acutifolius	235	6,619	45	1,000	—	—	—	—
—	Gava	Phaseolus polystachios	210	3,000	2,702	67,680	23	330	—	—
Mixed Grain	Uerra	—	—	—	—	—	—	—	—	—
—	Chenna	Phaseolus mungo	—	—	63	846	212	3,180	754	18,850
Miscellaneous	Maddal	—	—	149	2,225	—	—	—	469	7,035
Drugs and Spices—										
Tobacco	Tamaku	Nicotiana tabacum	383	10,120	2,105	3,08,600	37	1,850	—	—
Poppy	Root	Papaver somniferum	—	—	—	—	—	—	—	—
Asafoetida and Dill	Ajwain	Asafoetida	192	2,091	39	433	—	—	—	—
—	Meethi	—	—	—	—	—	—	—	—	—
Coriander	Dhania	Coriandrum sativum	—	—	10	1,420	—	—	—	—
Cumin	Zira	Cuminum cyminum	—	—	10	1,420	—	—	—	—
Turmeric	Haldi	Curcuma longa	—	—	—	—	200	—	—	—
Aniseed	Saunf	Pimpinella anisum	—	—	—	—	—	—	—	—
Miscellaneous	Kasni	—	—	—	—	—	—	—	—	—
Fibres—										
Cotton	Rei	Gossypium herbaceum	3,928	1,13,132	15,151	4,46,316	7,069	3,02,106	—	—
Ruella	Saw	Urtica cannabina	65	3,929	—	—	15	225	—	—
Hemp	Shauli	Crotalaria juncea	—	—	—	—	—	—	—	—
False Hemp	Mauklana	Saccharum mutans	—	—	—	—	—	—	—	—
Miscellaneous	—	—	—	—	—	—	—	—	—	—
Dyes—										
Indigo	Nil	Indigofera tinctoria	413	12,550	5,452	2,17,660	2,080	—	—	—
Henna	Mehndi	Lawsonia alba	—	—	—	—	—	—	—	—
Safflower	Kastumb	Carthamus tinctorius	—	—	—	—	—	—	—	—
Miscellaneous	—	—	—	—	—	—	—	—	—	—
Oil-seeds—										
Groundnut or Sesame	Til	Sesamum indicum	18,147	4,35,000	301	7,231	1,659	2,22	—	—
Mustard	Deson	Brassica campestris	415	2,008	90	3,162	—	—	927	9,025
—	Tora	Do. (Var. toria)	—	1,17,048	78,218	78,105	173	4,572	—	—
Linseed or Flax	Tara	Linum usitatissimum	4,517	67,218	—	—	190	4,570	—	103
Miscellaneous	Ales	—	—	21	—	—	—	—	—	2,700
Fruits and Vegetables—										
Orchards	Mirch	Capsicum annuum	123	9,510	203	21,810	—	—	—	—
Chillies	Kharbhanga	C. frutescens	51	625	19	520	—	6,013	—	—
Melons	Gajar	Daucus carota	—	—	16	—	—	—	—	—
Carrots	Hulm	Lepidium sativum	—	—	—	—	—	—	—	—
Onions	Piar	Allium cepa	—	—	22	350	—	—	—	—
Turnips	Halkum	Brassica rapa	10,494	3,27,920	1,192	70,900	—	—	—	—
Water-melons	Singhara	—	—	—	—	—	—	—	—	—
Gardens	—	—	—	—	—	—	—	—	—	—
Potatoes	Alu	Solanum tuberosum	187	8,425	259	29,820	78	7,600	—	1,310
Vegetables	Tarkari	—	319	23,315	651	29,570	42	2,940	—	—
Miscellaneous	Leban	—	—	—	—	—	—	—	—	—
Fodder—										
Lucerne Grass	Lumun Ghass	Medicago sativa	—	—	1	25	—	—	—	—
—	Bejji	Do. Var.	—	—	3	40	—	—	—	—
—	Ghus	—	—	—	—	—	—	—	—	—
Grass, etc.	Chash	—	13,321	16,520	7,097	20,85,899	2,549	50,050	—	—
Sugarcane	—	Saccharum officinarum	—	—	67	7,125	—	—	—	—
—	Ganna	—	103	55,100	137	5,740	4	4,200	—	—
—	Shafail	—	—	—	—	—	—	—	—	—
Miscellaneous	Meltra	—	—	2,732	54,780	133	2,993	7,161	35,100	—
	Total	—	218,594	81,17,004	303,750	19,47,377	44,873	13,81,037	26,677	8,69,547
Fallows	—	—	—	—	—	—	—	—	—	—
Single waterling	—	—	—	—	—	—	—	—	—	—
Plantations	—	—	—	—	—	—	—	109	—	—
Miscellaneous	—	—	—	—	—	—	—	—	—	—
Waste of water	—	—	—	—	—	—	—	—	—	—
Palaver	—	—	—	—	—	—	—	—	53	—
	GRAND TOTAL	—	219,093	81,17,034	303,750	19,47,377	44,871	13,81,037	26,730	8,69,547

\*Includes 1,313 acre.

**CONCLUDED.**

IN THE PUNJAB DURING THE YEAR 1916-17—concluded.

IV-E.

COMPARATIVE STATEMENT OF IRRIGATION AND RAINFALL FOR THE YEARS 1916-17 AND 1915-16 IN THE PUNJAB.

Civil District	On the Civil District.			Area Irrigated in Acres.						Rainfall, inches.				
	Total area, in acres.	Cultivable area, in acres.	Cultivated area, in acres.	1915-16.			1916-17.			1915-16.				
				Kharif.	Rabi.	Total.	Kharif.	Rabi.	Total.	1916-17.	1915-16.	1915-16.		
1	2	3	4	5	6	7	8	9	10	11	12	13		
Delhi	367,680	291,348	230,883	69,707	37,416	10,566	12,447	26,728	23,013	10,972	22,727	33,000		
Balrak	1,450,113	1,337,521	1,150,708	70,2473	200,381	85,787	119,501	88,533	123,138	200,953	183,181	18,81		
Karnal	1,657,695	1,721,629	1,121,916	603,144	245,335	84,271	118,101	20,372	123,147	201,651	24,69	24,69		
Ambala	1,198,684	973,280	748,221	4,805	2,933	1,510	1,285	2,752	1,250	1,204	2,564	52,25		
Hissar	3,118,830	3,169,986	2,700,356	617,413	226,737	102,703	145,259	247,963	118,650	131,557	260,013	1778		
Jind State	853,013	607,543	749,628	31,100	9,780	2,775	2,908	5,683	2,305	3,016	5,321	5,321		
Bikaner State	3,007,210	3,025,483	1,145,884	72,978	48,381	10,237	18,000	26,327	4,218	10,788	22,006	1770		
Patiala State	3,704,770	3,463,459	2,012,633	624,821	283,351	115,716	180,287	281,972	135,179	167,761	277,910	...		
Sialkot State	131,753	87,602	70,259	Western Jumna Canal	210,232	60,000	29,002	85,231	26,143	31,114	57,857	2123		
1	2	3	4	Sirhind Canal	8,200	3,071	10,110	24,072	(b) 40,182	17,103	20,657	(c) 46,900	...	
2	3	4	5	Total	297,443	63,071	16,113	59,853	101,325	43,306	61,481	104,817	...	
3	4	5	6	Western Jumna Canal	1,752	400	321	637	901	463	86	608	1766	
4	5	6	7	Chaugan Canal	31,618	17,309	3,154	8,788	12,040	12	1,153	3,168	13,91	
5	6	7	8	Total	36,360	17,689	3,578	9,933	13,001	495	3,241	3,730	...	
6	7	8	9	Western Jumna Canal	170,060	50,301	12,049	40,715	79,091	35,108	28,031	63,749	1849	
7	8	9	10	Sirhind Canal	313,302	108,018	210,704	323,203	53,067	204,419	382,866	657,285	...	
8	9	10	11	Total	492,023	167,919	243,053	370,086	(d) 03,861	230,527	411,507	(e) 05,034	...	
9	10	11	12	Western Jumna Canal	2,451	1,983	813	910	1,723	721	1,814	2,359	3,073	...
10	11	12	13	Sirhind Canal	12,900	3,231	1,031	3,300	4,007	1,814	2,359	3,073	...	
11	12	13	14	Total	16,330	1,613	2,443	4,276	6,719	2,036	5,056	5,001	...	
12	13	14	15	Western Jumna Canal	209,452	70,507	25,556	32,857	58,113	28,725	38,263	83,005	17,932	914
13	14	15	16	Sirhind Canal	1,258,231	431,507	263,818	38,477	570,908	171,448	412,21	657,169	1510	628
14	15	16	17	Total	145,273	30,817	61,470	73,881	382,953	38,803	64,870	103,382	...	...
15	16	17	18	Western Jumna Canal	231,137	45,873	18,737	18,737	48,887	7,072	11,636	21,359	...	...
16	17	18	19	Total	433,450	80,957	281,686	398,620	101,301	208,826	371,188	52,544	270,608	1261
17	18	19	20	Upper Bari Doab Canal	127,038	63,450	33,782	47,054	55,570	21,78	21,78	70,608	1851	1851
18	19	20	21	Total	560,488	144,406	321,137	47,054	160,301	21,78	21,78	70,608	1261	1261

“*Shiroi*” is a Japanese word meaning “white” and is used here to denote the white branches of the *National Goshu* *Branches of the Shiroi Canal*.

Branch, Western Jamaica Canal, in the Pataua State.

STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE PUNJAB DURING THE YEAR 1916-17.

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per.			
			Flow.	Lift.				
WESTERN JUMNA CANAL INCLUDING SIRSA BRANCH.								
OCCUPIER'S RATE.								
Irrigation Branch Notification No. 097 R. I., dated 30th June 1916.	I	Sugarcane ... ... ...	10 0 0	6 0 0	Crop.			
	II	Rice and water-nuts ... ... ...	8 8 0	4 0 0	Do.			
	III	Orchards, gardens, tobacco, poppy, drugs, vegetables, spices, melons ... ...	5 8 0	3 8 0	Gardens and orchards per half-year, the rest per crop.			
	III-A	Wheat ... ... ...	5 0 0	3 4 0	Crop.			
	IV	Cotton, fibres, dyes, oil-seeds and all rabi crops except wheat, gram, masur, senji, maize and turnips.	4 0 0	2 8 0	Do.			
	V	All kharif crops not otherwise specified ...	3 0 0	1 12 0	Do.			
	VI	Gram, mung, senji, turnips, carrots and maize ...	2 8 0	1 8 0	Do.			
	VII	Crops grown on the "wadi" of a previous crop Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest	1 4 0	0 12 0	Crop. Watering.			
	VIII	Grass, village and District Board plantations— For any number of waterings in kharif season	1 4 0	0 12 0	Half-year.			
		For one watering in rabi season ...	1 4 0	0 12 0	Do.			
		For two or more waterings in rabi season ...	2 8 0	1 8 0	Do.			
LOWER CHAUTANG NALA CANAL.								
OCCUPIER'S RATE.								
Irrigation Branch Notification No. 1631 I., dated 27th April 1900.	I	Sugarcane, rice, water-nuts ... ...	4 2 0	2 12 0	Crop.			
	IV	Cotton, indigo, maize ... ...	2 8 0	1 10 8	Do.			
	V	Other kharif crops ... ...	1 12 0	1 2 8	Do.			
	VII	Special rate—Single watering before ploughing for rabi followed by a crop ...	1 2 0	0 12 0	Do.			
SIRHIND CANAL.								
ZONE I.								
All lands irrigated by the British Branches of the Sirhind Canal with the exception of those situated in the Fazilka Tahsil of the Ferozepore District.								
Irrigation Branch Notification No. 278 R. I., dated 21st December 1904 ...	I	Sugarcane ... ... ...	12 0 0	6 0 0	Crop.			
	II	Rice, orchard, gardens, poppy, indigo, dyes, drugs and spices, water-nuts, maize, wheat, vegetables, except turnips ...	5 4 0	2 10 0	Gardens and orchards per half-year; the rest per crop.			
	III	Cotton, chillies, melons, tobacco, fibres, barley, oilseeds, berries, senji, all non-fodder crops in kharif and rabi not specified ... ...	4 0 0	2 0 0	Crop.			
	IV	Bajra, Jowar, chouri, moth, mung, marsh, guar, chhina, mung, gram, turnips, peas and all kharif and rabi fodder crops not specified ...	3 4 0	1 10 0	Do.			
	V	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest ...	1 8 0	0 12 0	Each watering.			
Irrigation Branch Notification No. 824 R. I., dated 12th May 1918 ...		Also crops grown on the "wadi" of a previous crop ...			Crop.			
	VI	Special rates which may be made applicable to channels selected by the Local Government— A single watering before ploughing followed by a rabi crop ... ...	2 4 0	1 2 0				

STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE PUNJAB DURING THE YEAR 1916-17—CONTINUED.

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
		<b>SIRHIND CANAL—CONCLUDED.</b> <b>ZONE II.</b> <i>All lands irrigated by the British Branches of the Sirhind Canal in the Ferozepore District.</i>	RS. A. P.	RS. A. P.	
Irrigation Branch Notification No. 278 R. I., dated 21st December 1904.	I	Sugarcane ... ... ...	10 0 0	5 0 0	Crop.
	II	Rice, orchards, gardens, poppy, indigo, dyos, dungs and spices, water-nuts, maize, wheat, vegetables (except turnips) ... ...	5 0 0	2 8 0	Orchards and gardens per half-year; the rest per crop.
	III	Cotton, chillies, melons, tobacco, fibres, barley, oil seeds, herba, sanji, all non-fodder crops in kharif and rabi not specified ... ...	8 12 0	1 14 0	Crop.
	IV	Bajra, jowar, chari, molh, mang, mash, guar, chana, maa, gram, turnips, peas and all kharif and rabi fodder crops not specified ...	9 0 0	1 8 0	Do.
Irrigation Branch Notification No. C24 R. I., dated 13th May 1916.	V	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest ... ... ...	1 8 0	0 12 0	Each watering.
		Also crops grown on the "wadis" of a previous crop ... ... ...			Crop.
		<i>All lands irrigated by other than the British Branches of the Sirhind Canal.</i>			
Irrigation Branch Notification No. 6016 R. I., dated 27th November 1888.	I	Sugarcane, rice, water-nuts ... ...	7 8 0	5 0 0	Crop.
	II	Gardens, orchards, tobacco, poppy, vegetables, indigo, maize ... ... ...	4 8 0	3 0 0	Do.
	III	Cottons, fibres, all dyes (except indigo), all rabi crops (except gram and maa) ... ...	8 12 0	2 8 0	Do.
	IV	All kharif crops not specified above and rabi crops of gram and maa ... ...	2 10 0	1 12 0	Do.
Irrigation Branch Notification No. 624 R. I., dated 12th May 1916.	V	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest ... ... ...	0 12 0	0 8 0	Each watering.
	VI	Special rate which may be made applicable to channels selected by the Local Government.			
		A single watering before ploughing for rabi followed by a rabi crop ... ...	1 8 0	1 0 0	Crop.

STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE  
PUNJAB DURING THE YEAR 1916-17—CONTINUED.

Authority.	Class.	Nature of crop.	RATE PER ACRE.		Per.			
			Flow.	Lift.				
UPPER BARI DOAB CANAL.								
OCCUPIER'S RATE.—								
Irrigation Branch Notification No. 2821 R. I., dated 10th June 1891.	I	Sugarcane and water-units ... ...	7 1 0	8 8 6	Crop.			
	II	Rice ... ... ... ...	0 0 10	8 0 5	Do.			
	III	Orchards and gardens, tobacco, poppy and other drugs, vegetables, melons, ... ...	4 8 8	2 4 6	Orchards and gardens per half-year; the rest per crop.			
	IV	All dyes, fibres and oilseeds; all rabi crops except gram and maseur ... ... ...	8 12 0	1 14 3	Crop.			
	V	All kharif crops not specified above; rabi crops of gram and maseur; all fodder crops ...	2 12 5	1 6 2	Do.			
	VI	Special rates, which may be made applicable to channels selected by the Local Government: a single watering before ploughing for rabi followed by a crop ... ... ...	2 0 4	1 0 2	Do.			
Irrigation Branch Notification No. 628 R. I., dated 12th May 1913.	VII	A single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest ... ... ...	1 0 2	0 8 1	Each watering.			
		Crops grown on the "wadhi" of a previous crop			Crop.			
Irrigation Branch Notifications No. 849 R. I., dated 26th March 1907; No. 638 R. I., dated 11th December 1907; No. 030 R. I., dated 2nd July 1908.	VIII	Village plantations on areas to which the provisions of Act III of 1893 have been extended and District Board plantations within the Chiniot Colony—						
		For any number of waterings in the kharif season ... ... ...	1 3 4	0 9 8	Half-year.			
		For one watering in rabi season ... ...	1 3 4	0 9 8	Do.			
		For two or more waterings in rabi season ...	2 11 7	1 6 0	Do.			
LOWER BARI DOAB CANAL.								
OCCUPIER'S RATE.								
Irrigation Branch Notification No. 647 R. I., dated 23rd April 1913.	I	Cane and water units ... ... ...	9 0 0	4 8 0	Crop.			
	II	Rice ... ... ... ...	7 8 0	3 32 0	Do.			
	III	Orchards, gardens, tobacco, poppy, Indigo, drugs, vegetables, melons and wheat ... ...	5 0 0	2 5 0	Orchards and gardens per half-year; rest per crop.			
	IV	Cotton, fibres, dyes (other than indigo), oilseeds and all rabi crops, except wheat, gram, maseur, sunji, maize and turnips ... ...	4 0 0	2 0 0	Crop.			
	V	All kharif crops not otherwise specified ...	3 0 0	1 8 0	Do.			
	VI	(a) Gram, maseur, sunji, turnips and maize ...						
		(b) Crops grown on the "wadhi" of a previous crop.	2 4 0	1 2 0	(a) Crop, (b) and (c) acre.			
		(c) Single watering before ploughing for rabi followed by a rabi crop to be applicable only to channels selected by the Local Government.						
	VII	Grass, village and District Board plantations—						
		For any number of waterings in kharif season.	1 4 0	0 10 0	Half-year.			
		For one watering in rabi season ...	1 4 0	0 10 0	Do.			
		For two or more waterings in rabi season...	2 8 0	1 4 0	Do.			
	VIII	(a) Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest.						
		(b) Hemp (can) and indigo which has been ploughed in no green manure before the 15th September.	0 8 0	0 4 0	Acre.			

STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE PUNJAB DURING THE YEAR 1916-17—CONTINUED.

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
			Rs. A. F.	Rs. A. F.	
UPPER CHENAB CANAL.					
OCCUPIER'S RATE.					
Irrigation Branch Notification No. 0228 R. 1, dated 8th August 1912.	I	Cane and water-melons ... ... ...	9 0 0	4 8 0	Crop.
	II	Rice ... ... ...	7 8 0	3 12 0	Do.
	III	Orchards, gardens, tobacco, poppy, Indigo, drugs, vegetable, melons and wheat ... "	6 0 0	2 8 0	Orchards and gardens per half-year; rest per crop.
	IV	Cotton, fibres, dyes (other than indigo), oilseeds and all rabi crops, except wheat, gram, masur, senji, maize and turnips "	4 0 0	2 0 0	Crop.
	V	All kharif crops not otherwise specified ...	3 0 0	1 8 0	Do.
	VI	(a) Gram, masur, senji, turnips and maize ...			
		(b) Crops grown on the "wadi" of a previous crop.	2 4 0	1 2 0	(a) Crop, (b) and (c) acre.
		(c) Single watering before ploughing for rabi soil owned by a rabi crop to be applicable only to channels selected by the Local Government.			
Irrigation Branch Notification No. 55 R. 1, dated 18th January 1913.	VII	Oranges, village and District Board plantations—			
		For any number of waterings in the kharif season... ... ...	1 4 0	0 10 0	Half-year.
		For one watering in rabi season... ...	1 4 0	0 10 0	Do.
		For two or more waterings in rabi season ...	2 8 0	1 4 0	Do.
VIII	(a)	Single watering before ploughing not followed by a canal-irrigated crop in the same or the next harvest.			
	(b)	Hemp (sai) and indigo which has been ploughed as green manure before the 15th September.	0 8 0	0 4 0	Acre.
LOWER CHENAB CANAL.					
OCCUPIER'S RATE.					
<i>Applicable to—</i>					
(a) all estates in the Gujronwala District which were established before the 1st January 1893;					
(b) all estates in the Jhang District which were established before 1st January 1892, except those which were transferred from the Montgomery to the Jhang District by Revenue and Agriculture Notification No. 870 of 4th May 1892; and such proprietary wells as are now or may hereafter be included within the boundaries of the Colony mounds;					
(c) all estates in the Gugera and Montgomery Townships of the Montgomery District which were established before 1st January 1894; and					
(d) all estates in the Multan and Lahore Districts which were established before 1st April 1902.					

STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE PUNJAB DURING THE YEAR 1916-17.—CONTINUED.

Authority.	Class.	Nature of crop.	RATE PER ACRE.		Per			
			Flow.	Lift.				
LOWER CHENAB CANAL—CONTINUED.								
OCCUPIER'S RATE—continued.								
Irrigation Branch Notification No. 017 R. I., dated 18th June 1903.	I	Sugarcane, water-cults ...	8 0 0	4 4 0	Crop.			
	II	Rice ...	6 12 0	8 10 0	Do.			
	III	Orchards, gardens, tobacco, poppy, indigo, drugs, vegetables, melons ...	5 8 0	8 0 0	Orchards and gardens per half-year; the rest per crop.			
	IV	Cotton, fibres, dyes (other than indigo), oilseeds, maize and all rabi crops (except gram and maseur) ...	4 4 0	2 6 0	Crop.			
	V	All kharif crops not otherwise specified, and gram and maseur ...	3 0 0	1 12 0	Do.			
Irrigation Branch Notification No. 686 R. I., dated 12th May 1918.	VI	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest ...	1 12 0	1 2 0	Each watering.			
		Also crops grown on the "wash" of a previous crop ...			Crop.			
	VII	Single watering before ploughing for rabi followed by a rabi crop, to be applicable only to channels selected by the Local Government ...	2 4 0	1 6 0	Acre.			
Irrigation Branch Notification No. 0141 R. I., dated 12th October 1903	VIII	Grass—						
		For any number of waterings in the kharif season ...	1 4 0	0 10 0	Half-year.			
		For one watering in the rabi season ...	1 4 0	0 10 0	Do.			
		For two or more waterings in the rabi season ...	2 8 0	1 4 0	Do.			
Applicable to estates other than those referred to in Notification No. 0141 R. I., dated 18th June 1903, above.								
Irrigation Branch Notification No. 82 R. I., dated 6th January 1892.	I	Sugarcane ...	7 8 0	8 12 0	Crop.			
	II	Rice ...	5 4 0	8 2 0	Do.			
	III	Orchards, gardens, tobacco, Indigo, vegetables, poppy, dhani, zira, saunf, melons ...	5 0 0	2 8 0	Orchards and gardens per half-year; the rest per crop.			
	IV	Cotton, fibres, dyes (other than indigo), oilseeds, maize and all rabi crops (except gram and maseur) ...	8 12 0	1 14 0	Crop.			
	V	All kharif crops not otherwise specified, and gram and maseur ...	2 8 0	1 4 0	Do.			
Irrigation Branch Notification No. 686 R. I., dated 12th May 1918.	VI	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest ...	1 4 0	0 10 0	Each watering.			
	VII	Also crops grown on the "wash" of a previous crop ...			Crop.			
Irrigation Branch Notifications No. 0141 R. I., dated 12th October 1903, and No. 818 R. I., dated 18th December 1905, and No. 701 R. I., dated 11th December 1907.	VIII	Grass, village plantations in Colony villages, and District Board plantations in the Colony—						
		For any number of waterings in the kharif season ...	1 4 0	0 10 0	Half-year.			
		For one watering in the rabi season ...	1 4 0	0 10 0	Do.			
		For two or more waterings in the rabi season ...	2 8 0	1 4 0	Do.			

STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE PUNJAB DURING THE YEAR 1916-17—CONTINUED.

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per.
			Flow.	Lift.	
		<b>LOWER CHENAB CANAL—CONTINUED.</b> <b>OCCUPIER'S RATE—concluded.</b> <i>Applicable to the following estates selected by the Local Government.</i>			
		Division.	District.	Settlement arrangement circle	Nos. of Chaks and Branch.
		Upper Gugera.	Gujranwala	Gugera Branch I.	537, 538 and 539, Gugera Branch.
		Lower Gugera.	Lyallpur	Ditto	71 and part of 75 and 161, Gugera Branch.
		Lyallpur.	Lyallpur...	Jhang Branch I.	16 <sup>th</sup> and half of 25, Jhang Branch.
			Jhang ...	Ditto	120, 126, 127, 141, 142, 143, 144, 145, 174 and 187, Jhang Branch.
		Jhang...	Lyallpur	Jhang Branch II.	324, 325, 326 and 327, Jhang Branch.
			Jhang	Ditto	172, 173, 175, 176, 177, 182, 208, 209, 212, 213, 216, 217, 220, 221, 247, 248, 249, 257, 258, 276 and 277, Jhang Branch.
			Lyallpur...	Jhang Branch III.	367, 368, 370, 401, 402, 406, 409, 410, 411, 412, 413, 414 and 415, Jhang Branch.
		Lower Gugera.	Jhang ...	Ditto	412, 413, 416, 447, 448, 449, 450, 451, and 453, Jhang Branch.
			Lyallpur...	Gugera Branch I.	116, 207 and 240, Gugera Branch.
		Jhang ...	Ditto ...	Jhang Branch II.	421, 431, 436, 447, 453, 459 and 460, Jhang Branch.
			Ditto ...	Jhang ...	170, Jhang Branch.
		Lower Gugera.	Lyallpur...	Gugera Branch II.	274, 275, 317, 328, 329, 330 and 331, Gugera Branch.
		Burewala	Ditto ...	Ditto	307, 301, 302, 303, 301, 306, 312, 316 and 316, Gugera Branch.
			Khanli ...	Gujranwala	11, 122 and 266, Rukh Branch.
		Upper Gugera.	Ditto	...	15, 18, 26, 30, 31, 32 and 46, Rukh Branch.
			Ditto	Lyallpur...	57, 61, 107 and 109, Rukh Branch.
		Jhang ...	Lyn Lpu ...	...	105, 211, 217, 218, 240 and 251, Rukh Branch.
			Jhang ...	Jhang ...	405, 475, 476, 479, 480, 481, 482, 489, 490, 493, 498, 500, 503, 504 and 506, Jhang Branch.
		Burewala	Ditto ...	Lyallpur...	167, 179, 181, 185, 187, 193, 198, 216, 211, 222 and 223, Burewala Branch.
			Lower Gugera.	Ditto ...	321, Gugera Branch, Lower.
		Upper Gugera.	Ditto ...	...	169, Gugera Branch, Upper.
	IV	Cotton fibres, dyes, other than indigo, oilseeds, maize, and all rabi crops except gram and mousur		... ... ...	3 0 0 1 12 0 Crop.
	V	All kharif crops not otherwise specified and gram and mousur.		2 0 0	1 4 0 Do.

STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE PUNJAB DURING THE YEAR 1916-17—CONTINUED.

Authority.	Class.	Nature of crop.	RATE PER ACRE.		Per.			
			Flow.	Lift.				
<b>UPPER JHELUM CANAL.</b>								
<b>OCCUPIER'S RATE.</b>								
Irrigation Branch Notification No. 037 R. I., dated 6th June 1916.	I	Cane and water-nuts ... ...	9 0 0	4 8 0	Crop.			
	II	Rice ... ...	7 8 0	8 12 0	Do.			
	III	Orchards, gardens, tobacco, poppy, indigo, drugs, vegetables, melons and wheat ...	5 0 0	2 8 0	Orchards and gardens per half-year, rest per crop.			
	IV	Cotton, fibres, dyes (other than indigo), oilseeds and all rabi crops, except wheat, gram, masur, senji, maize and turnips ...	4 0 0	2 0 0	Crop.			
	V	All kharif crops not otherwise specified ...	3 0 0	1 8 0	Do.			
	VI	(a) Gram, maize, senji, turnips and maize ...			(a) Crop.			
		(b) Crops grown on the "wadda" of a previous crop			(b) Acre.			
		(c) Single waterings before ploughing for rabi followed by a rabi crop to be applicable only to the following channels—			(c) Acre.			
		11 R. of Machhaur kharif distributary.						
		12 R. or Sunampioli kharif distributary.						
Malo Line, Upper Jhelum Canal.		13 R. or Sareki kharif distributary.	2 4 0	1 2 0				
		14 R. or Phalia kharif distributary.						
Gujrat Branch, Upper Jhelum Canal.		2 L. or Phalia Dostarka kharif distributary.						
		These channels will be open only between the 1st April and 15th October, both dates inclusive.						
	VII	Grass, village and district board plantations—						
		For any number of waterings in the kharif season	1 4 0	0 10 0	Half-year.			
		For one watering in rabi season ...	1 4 0	0 10 0	Do.			
		For two or more waterings in rabi season ...	2 8 0	1 4 0	Do.			
	VIII	(a) Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest.	0 8 0	0 4 0	Acre.			
		(b) Hemp (can) and indigo which have been ploughed as green manure before the 15th September.						
<b>LOWER JHELUM CANAL.</b>								
<b>OCCUPIER'S RATE.</b>								
Irrigation Branch Notification No. 07 R. I., dated 25th May 1903.	I	Sugarcane, water-nuts ... ...	10 0 0	5 0 0	Crop.			
	II	Rice ... ...	6 4 0	3 2 0	Do.			
	III	Orchards, gardens, tobacco, indigo, vegetables, drugs, poppy and melons ...	6 0 0	2 8 0	Orchards and gardens per half-year; the rest per crop.			
	IV	Cotton, fibres, dyes (other than indigo), oilseeds, maize and all rabi crops except gram and maseur	3 12 0	1 12 0	Crop.			
	V	All other kharif crops, gram and masur, and all crops grown for fodder ...	2 8 0	1 4 0	Do.			
	VI	Single watering before ploughing, not followed by a canal-irrigated crop in the same or next harvest.	1 4 0	0 10 0	Each watering.			
Irrigation Branch Notification No. 682 R. I., dated 12th May 1918.		Crops grown on the "wadda" or moisture of a previous crop.			Crop.			
	VII	Single watering before ploughing for rabi followed by a rabi crop, to be applicable only to channels selected by the Local Government ...	2 8 0	1 4 0	Crop.			
Irrigation Branch Notifications No. 0121 R. I., dated 31st September 1903, No. 310 R. I., dated 19th December 1905, and No. 695 R. I., dated 11th December 1907.	VIII	Grass, village plantations in Colony villages and District Board plantations in the Colony—						
		For any number of waterings in the kharif season	1 4 0	0 10 0	Half-year.			
		For one watering in the rabi season ...	1 4 0	0 10 0	Do.			
		For two or more waterings in the rabi season	2 8 0	1 4 0	Do.			

STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE PUNJAB DURING THE YEAR 1916-17—CONTINUED.

Authority.	Class.	Nature of crop.	RATE PER ACRE.		Per
			Flow.	Lift.	
			Rs. A. E.	Rs. A. E.	
LOWER JHELUM CANAL—concluded.					
OCCUPIER'S RATE—concluded.					
Applicable to—					
<p>(1) All villages or portions of villages in the Bhara Tahsil irrigated from the Khadie Feeder or Khadir Distributary.</p> <p>(2) All villages in the Shakpur Tahsil, except Sher Muhammadwala and Wergowal and except all villages or portions of villages irrigated from the Sabitost Feeder including the Sabitost Distributary and Gondal Distributary.</p> <p>(3) The following villages in the Sargodha Tahsil:—</p>					
Northern Branch Chaks—					
<p>Nos. 89, 93, 94, 95, 103, 104, 105, 108, 110, 112, 115 to 17½ inclusive.</p>					
Southern Branch Chaks—					
<p>Nos. 60, 61, 63, 131, 133, 134, 135, 187 to 141 inclusive and Chak Jodh on the Khadir Distributary.</p>					
Irrigation Branch Notification No. 408 R. I., dated 20th March 1912, and No. 438 R. I., dated 3rd April 1912.	I	Sugarcane and water-nuts	... ... ...	7 8 0	8 12 0 Crop.
	II	Rice	... ... ...	4 0 0	2 0 0 Do.
	III	Orchards, gardens, indigo, vegetables, drugs and melons	... ... ...	5 0 0	2 8 0 Orebards and gardens per half-year; the rest per crop.
	IV	Wheat	... ... ...	3 4 0	1 10 0 Crop.
	V	Cotton and oilseeds	... ...	3 0 0	1 8 0 Do.
	VI	Fibres (other than cotton), dyes (other than indigo), maize and all rabi crops other than wheat, gram and matur	... ...	2 8 0	1 4 0 Do.
	VII	All other kharif crops, gram, matur and all crops grown for fodder (including turnips)	...	2 0 0	1 0 0 Do.
	VIII	Single watering before ploughing not followed by a rabi-irrigated crop in the same or next harvest	... ...	1 4 0	0 10 0 Each watering.
		Crops grown on "wazia" or moisture of a previous crop ...	...		Do.
	IX	Single watering before ploughing for rabi followed by a rabi crop, to be applicable only to culmous selected by the Local Government	... ...	2 8 0	1 4 0 Crop.
Irrigation Branch Notification No. 692 R. I., dated 12th May 1918.	X	Grass, village plantations in Colony villages and District Board plantations in the colony—			
		For any number of waterings in the kharif season	... ...	1 4 0	0 10 0 Half-year.
		For one watering in the rabi season	... ...	1 4 0	0 10 0 Do.
		For two or more waterings in the rabi season	... ...	2 8 0	1 4 0 Do.

STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE PUNJAB DURING THE YEAR 1816-17—CONTINUED.

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per					
			Flow.	Lift.						
Irrigation Branch Notification No. 428 I., dated 7th March 1898.	I	Rice, gardens and pepper ... ...	3 4 0	1 10 0	Acre.					
<b>LOWER SOKH AND PARA CANALS.</b>										
<b>OCCUPIER'S RATE.</b>										
Irrigation Branch Notification No. 422 I., dated 7th March 1898.	II	Cotton, sugarcane, melons, til and hemp ...	2 4 0	1 2 0	Do.					
	III	All other kharif crops ... ..	1 4 0	0 10 0	Do.					
	IV	All matured rabi crops, plantations and vegetables.	1 0 0	0 8 0	Do.					
	V	Failed rabi crops and grasses ... ...	0 8 0	0 4 0	Do.					
	<b>UPPER SUTLEJ INUNDATION CANALS.</b>									
<b>OCCUPIER'S RATE.</b>										
<i>Montgomery District.</i>										
Irrigation Branch Notification No. 422 I., dated 7th March 1898.	I	Rice, gardens and pepper ... ...	3 4 0	1 10 0	Acre.					
	II	Cotton, sugarcane, melons, til and hemp ...	2 4 0	1 2 0	Do.					
	III	All other kharif crops ... ..	1 4 0	0 10 0	Do.					
	IV	All matured rabi crops, plantations and vegetables.	1 0 0	0 8 0	Do.					
	V	Failed rabi crops and grasses ... ...	0 8 0	0 4 0	Do.					
<b>OCCUPIER'S RATE.</b>										
<i>Lahore District.</i>										
Irrigation Branch Notification No. 1803 I., dated 18th April 1900.	I	Rice, gardens and pepper ... ...	3 4 0	1 10 0	Acre.					
	II	Cotton, sugarcane, melons, til and hemp ...	2 4 0	1 2 0	Do.					
	III	All other kharif crops ... ..	1 4 0	0 10 0	Do.					
	IV	All matured rabi crops, plantations and vegetables.	1 0 0	0 8 0	Do.					
	V	Failed rabi crops and grasses ... ...	0 8 0	0 4 0	Do.					
<b>SIDHNAI CANALS.</b>										
<b>WATER-RATE.</b>										
<i>Kabirwala and Multan Tahsils.</i>										
Punjab Civil (Revenue) Department letter No. 269, dated 11th December 1899.	I	Rice, fruits and vegetables, pepper, cotton, til, sugarcane, wheat and tobacco ... ..	3 5 0							
	II	Other kharif crops ... ..	2 6 0							
	III	Other rabi crops ... ..	2 2 0							
<i>NOTE.—"Lift" rates to be half the "flow" rates.</i>										
<b>LOWER SUTLEJ INUNDATION CANALS.</b>										
<b>OCCUPIER'S RATE.</b>										
<i>Mailsi Canals and Branches; Muhammadrahs; Sardarwah and Branches; Bahawalwah, Lodhran and Branches.</i>										
Irrigation Branch Notification No. 53 I., dated 14th February 1903.	I	Rice, gardens and pepper ... ..	2 4 0	1 11 0	Acre of matured crop.					
	II	Cotton, sugarcane and til ... ..	1 12 0	1 5 0	Ditto.					
	III	Other kharif crops ... ..	1 8 0	1 2 0	Ditto.					
	IV	Rabi crops ... ..	0 14 0	0 10 0	Ditto.					
<i>NOTE.—Irrigation on grass land may be assessed at half rabi rates at the discretion of the Dep'ty Commissioner.</i>										

STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE PUNJAB DURING THE YEAR 1916-17—CONTINUED.

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per.
			Flow.	Lift.	
		<b>CHENAB INUNDATION CANALS,</b> <b>OCCUPIER'S RATE,</b> <i>Gajjuhottu, Sikandarabad-Sikandarwala and Bilocharwala Canals.</i>			Rs. A. F.
Irrigation Branch Notification No. 2186 I., dated 9th November 1890.	I	Rice, gardeos and pepper ... ... ...	2 4 0	1 11 0	Acres of matured crop.
	II	Cotton, sugarcane and til ... ... ...	1 12 0	1 5 0	Ditto.
	III	Other kharif crops ... ... ...	1 8 0	1 2 0	Ditto.
	IV	Rabi crops ... ... ...	0 14 0	0 10 0	Ditto.
		NOTE.—Irrigation on grass lands may be assessed at half rabi rates at the discretion of the Deputy Commissioner.			
		<i>Matithol, Daurana Langana and Wali Muhammad Canals.</i>			
Irrigation Branch Notification No. 01522 I., dated 26th September 1900.	I	Rice, gardeos and pepper ... ... ...	2 4 0	1 11 0	Acres of matured crop.
	II	Cotton, sugarcane and til ... ... ...	1 12 0	1 5 0	Ditto.
	III	Other kharif crops ... ... ...	1 8 0	1 2 0	Ditto.
	IV	Rabi crops ... ... ...	0 14 0	0 10 0	Ditto.
		NOTE.—Irrigation on grass lands may be assessed at half rabi rates at the discretion of the Deputy Commissioner.			
		<b>HAJIWALI CANAL,</b>			
Irrigation Branch Notification No. 266 II 1, dated 16th November 1906.	III	In exercise of the power conferred by Section 29 (1) of the Punjab Minor Canals Act, 1905 (Punjab Act III of 1905), His Honour the Lieutenant-Governor is pleased to direct that for all irrigation from the Hajiwali Canal the following rates shall be levied <i>per acre</i> actually matured, namely:—			
		<b>WATER RATE.</b>			
	I	Rice, gardeos and pepper ... ... ...	2 4 0	1 11 0	
	II	Cotton, sugarcane and til ... ... ...	1 12 0	1 5 0	
	III	Other kharif crops ... ... ...	1 8 0	1 2 0	
	IV	Rabi crops ... ... ...	0 14 0	0 10 0	
		Provided that on all irrigation, within the original grant of land made in the year 1880 to the late Ghulam Kadir Khan, of lands, the proprietary right in which is or may hereafter become vested—			
		(a) in the sons of his descendants of the said Ghulam Kadir Khan; or			
		(b) in Mian Muhammad Khan or Hafiz Muhammad Afzal Khan, the nephews of the said Ghulam Kadir Khan or their lineal descendants;			
		The rate per acre actually matured whether in the kharif or rabi shall be limited to the following rates, namely—			
		Rs. A. F.			
		Flow ... ... 0 12 0 per acre.			
		Lift ... ... 0 9 0 "			

STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE PUNJAB DURING THE YEAR 1916-17—CONCLUDED.

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
		<b>MUZAFIARGH INUNDATION CANALS—concluded.</b>	Rs. A. R.	Rs. A. R.	
		<b>OCCUPIER'S RATE—concluded.</b>			
		<b>Indus Canals.</b>			
Irrigation Branch Notification No. 052 R. I., dated 7th July 1903, and No. 100 R. I., dated 2nd February 1917.	I	Rice, gardens and pepper ... ... ...	2 0 0	1 0 0	Acre of matured crop.
	II	Cotton, sugarcane and Indigo ... ... ...	1 0 0	0 8 0	Ditto.
	III	Other kharif crops ... ... ...	0 12 0	0 6 0	Ditto.
	IV	Rabi crops ... ... ...	0 8 0	0 4 0	Ditto.
Irrigation Branch Notification No. 434 R. I., dated 4th May 1907.	V	Grass lands ... ... ...	0 4 0	0 2 0	Ditto.
		<i>NOTE.—The rate for grass lands to be assessed at the discretion of the Deputy Commissioner</i>			
		<b>GHAGGAR INUNDATION CANALS (BRITISH).</b>			
		<b>OCCUPIER'S RATE.</b>			
Irrigation Branch Notification No. 318 R. I., dated 27th November 1903.	I	Sugarcane ... ... ...	8 5 0	4 4 0	Acre matured per crop.
	II	Rice and water-melons ... ... ...	6 0 0	3 0 0	Ditto.
	III	All other crops ... ... ...	2 8 0	1 4 0	Ditto.
		<i>Proviso.—Provided that no occupiers' rates shall be levied in respect of any land for the time being assessed to factoring land revenue.</i>			
		<b>DELHI AND GURGAON WORKS.</b>	Rate per acre.		
		<b>OCCUPIER'S RATE.</b>	Rs. A. R.		
Irrigation Branch Notification No. 453 R. I., dated 6th April 1898.	...	All crops ... ... ...	0 0 48	Acre.	
		Grass ... ... ...	0 3 31	Da.	
		<i>Note.—This schedule is the same as that published in Notification No. 623 R. I., dated 8th December 1878, which is hereby superseded.</i>			
		<b>SCHEDULE OF RATES FOR SUPPLY OF WATER FOR PURPOSES OTHER THAN IRRIGATION.</b>			
		WESTERN JEMNA CANAL, UPPER BABI POAN CANAL, SILINGH CANAL, LOWER CHENNA CANAL, UPPER JHULEY CANAL, LOWER JHULEY CANAL, UPPER CHENNA CANAL, LOWER BABI CANAL, UTTER SUTHER CANALS, LOWER SONG AND PARI CANALS, SIDHNAI AND FIVE EYED CANALS, LOWER SUTHER AND CHENNA CANALS, INDORE CANAL, MUZAFIARGH CANAL, SHANER CANAL.			
Irrigation Branch Notifications Nos. 651 R. I., dated 5th April 1898, 276 R. I., dated 14th December 1902, 510 R. I., dated 22nd April 1913, 0105 R. I., dated 22nd June 1913, and 0218 R. I., dated 14th September 1916.	...	Brick-making and pich-wali building ...	0 3 0	100 cubic feet.	
		Laying concrete and brick or stone masonry ...	0 2 0	Ditto.	
		Metalling roads ... ...	10 0 0	Mile.	
		Water supplied in bulk ...	1 0 0	2,500 cubic feet.	
Irrigation Branch Notification No. 325 R. I., dated 29th October 1900.	...	Watering roadside or avenue trees ...	2 8 0	Canal mile of 6,000 feet, for kharif crop.	
			5 0 0	Canal mile of 8,000 feet for rabi crop.	
Irrigation Branch Notification No. 10237 R. I., dated 23rd September 1911.	...	<i>Proviso.—Except within the limits of Civil stations, Caravanserais and Municipalities no charge shall be made for water used for the manufacture of bricks and subsequently burnt in a kiln or for pich-wali building, if taken from a water-course or tank lawfully supplied from a canal and if such bricks or walls are for buildings owned by cultivators having a share in the water-course.</i>			

**PUNJAB PROVINCE.**

**IRRIGATION BRANCH**

**ADMINISTRATIVE ACCOUNTS**

**FOR THE YEAR**

**1916-17**

*No. Irr. 15-4-*

*Dated* 1917

*Copy forwarded to* \_\_\_\_\_

**J. C. MITRA,**  
*Accountant-General, Panjab.*





## MINOR WORKS AND NAVIGATION.

## No. 1. GENERAL ABSTRACT OF FINANCIAL RESULTS.

## (1). Ordinary works of Irrigation and Navigation.

*Canals in operation.**Imperial.*

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<b>SHAHPUR CANALS—</b>						
No. 2 Capital account	...	...	...	...	...	55
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" 5 Indirect charges account	...	...	...	...	...	57
" 6 Statement comparing charges to date with sanctioned estimates	...	...	...	...	...	57
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" 3 Revenue account	...	...	...	...	...	60
" 5 Indirect charges account	...	...	...	...	...	62
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(b). Works for which only Revenue accounts are kept.						
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<b>LOWER SUTLEJ INUNDATION CANALS INCLUDING HAJIWAR CANALS—</b>						
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<b>CHENAB INUNDATION CANALS—</b>						
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<i>Provincial.</i>						
(b). Works for which only Revenue accounts are kept.						
<b>SHAHPUR CANALS—</b>						
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## IRRIGATION BRANCH.

## PUBLIC WORKS

## ADMINISTRATIVE ACCOUNTS

No. I.—General Abstract of Financial Results showing the Estimated Cost of Construction and the Interest on the Debt incurred in respect

Name of Project.	ESTIMATED COST OF CONSTRUCTION.			CAPITAL OUTLAY INCLUSIVE OF INDIRECT			
	Direct charges.	Indirect charges.	Total.	During 1916-17.			To end of
				Rs.	Rs.	Rs.	
<b>PRODUCTIVE WORKS.</b>							
Canals in Operation.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Imperial.							
Western Jumna Canal .. .. 1,06,0,721	8,10,210	1,74,70,040	1,180	31	1,20	1,63,83,636	
Upper Bari Doab Canal .. .. 2,05,71,907	7,31,773	2,16,06,680	—30,164	—1,985	—35,136	2,11,00,838	
Sirhind Canal .. .. 2,12,02,710	12,12,182	2,51,14,032	36,640	—294	36,255	2,13,81,660	
Lower Chenab Canal .. .. 3,18,58,060	7,49,105	3,26,09,065	5,10,021	12,217	5,59,238	3,16,78,920	
Upper Sutlej Inundation Canals including Lower Sohag and Para.	16,95,074	1,01,031	17,97,010	1,151	14	1,406	17,18,805
Sidhuani Canals .. .. 12,17,714	40,227	12,57,031	4,621	8	4,520	12,05,265	
Lower Jhelum Canal .. .. 1,63,95,792	5,65,230	1,69,63,086	—33,101	600	—32,591	1,65,43,447	
Indus Inundation Canals .. .. 28,37,222	77,064	30,14,294	8,616	429	9,015	20,01,976	
<b>TOTAL IMPERIAL</b> .. .. 11,77,53,030	42,59,523	12,20,72,853	7,34,996	8,020	5,43,019	11,54,03,947	
Contribution.							
Western Jumna Canal .. .. 11,60,478	..	11,60,478	..	..	..	11,60,478	
Sirhind Canal .. .. 1,43,16,870	..	1,43,16,870	15,284	103	16,357	1,42,17,289	
<b>TOTAL CONTRIBUTION</b> .. .. 1,64,70,348	..	1,64,70,348	15,284	103	16,357	1,54,77,767	
<b>TOTAL CANALS IN OPERATION, IMPERIAL.</b> .. .. 11,77,53,030	42,59,523	12,20,72,853	5,31,099	8,020	5,43,019	11,54,03,947	
Do. CONTRIBUTION .. .. 1,64,70,348	..	1,64,70,348	15,284	103	16,357	1,54,77,767	
Canals under construction.							
Upper Chenab Canal .. .. 3,61,00,583	12,25,411	3,65,32,021	7,37,131	1,03,457	8,10,594	3,47,51,637	
Lower Bari Doab Canal .. .. 2,13,09,016	6,69,402	2,20,29,402	7,53,300	5,38,962	7,92,271	2,14,20,273	
Upper Jhelum Canal .. .. 4,40,65,252	10,56,277	4,51,21,552	14,30,295	69,540	14,56,32	4,30,11,684	
<b>TOTAL CANALS UNDER CONSTRUCTION</b> .. .. 10,07,41,805	29,10,190	10,36,51,982	29,20,731	2,00,039	31,21,600	9,87,03,494	
<b>GRAND TOTAL CANALS IN OPERATION AND UNDER CONSTRUCTION.</b>	<b>IMPERIAL</b> 21,85,11,635	<b>72,30,903</b>	<b>22,57,51,534</b>	<b>31,56,730</b>	<b>2,08,970</b>	<b>30,61,700</b>	<b>21,41,07,441</b>
	<b>CONTRIBUTION</b> 1,64,70,348	..	1,64,70,348	15,284	103	16,357	1,54,77,767

(a) — The seeming excess over estimate is due to suspense balances  
(b) — Excludes recoveries made by Native States and credited  
(c) — Excludes share of Accounts Establishment commencing from

LAHORE :

The 31st August 1917.

DEPARTMENT.

PUNJAB PROVINCE.

FOR THE YEAR 1916-17.

Minor Works, the Capital outlay thereon, the Revenue derived therefrom, the working expenses, of 1916-17.

DURING 1916-17.						WORKING EXPENSES AND MAINTENANCE DURING 1916-17, INCLUSIVE OF INDIRECT CHARGES NO. 3 AND 5.			NET RESULT, EXCLUDING INTEREST, DIFFERENCE BETWEEN REVENUE AND WORKING EXPENSES.			NET RESULTS, INCLUDING INTEREST.			
Collected with Land Revenue.			Total.			Direct charges	Indirect charges.	Total	Excess revenue (surplus).	Excess expenditure (deficit).	Rate per cent	Simple Interest during 1916-17.	Excess revenue (surplus).	Excess expenditure (deficit).	Rate per cent.
Actual transactions of the year.	Adjustment on account of previous year.	Total.	Actual transactions of the year.	Adjustment on account of previous year.	Total.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
34,072	..	34,072	1,15,018	..	1,15,018	43,707	3,468	47,175	67,843	..	31.42	..			
..	..	..	21,960	..	21,850	27,818	2,002	30,480	..	8,630	..	2.40			
34,072	..	34,072	1,36,808	..	1,36,808	71,525	6,130	77,655	67,843	8,630	10.00	..			
..	..	..	..	..	..	3,105	..	3,105	..	3,105	..	1.00			
3,05,700	..	3,05,700	6,26,914	..	6,26,914	2,20,852	13,061	2,39,013	3,87,001						
2,46,795	..	2,46,795	4,44,042	..	4,44,042	1,48,443	6,560	1,55,000	2,88,033						
4,16,010	..	4,16,010	7,63,017	..	7,63,017	3,34,520	10,956	3,61,476	4,02,472						
9,69,114	..	9,69,114	18,24,903	..	18,24,903	7,10,815	36,583	7,47,397	10,77,506						
12,973	..	12,973	45,465	..	45,465	44,970	2,633	47,603	..	2,144					
3,222	..	3,222	3,222	..	3,222	2,109	295	2,404	818	..					
16,195	..	16,195	48,687	..	48,687	47,085	2,928	50,013	818	2,144					

J. C. MITRA,

Accountant-General, Punjab.

## IRRIGATION BRANCH.

6 //

 OFFICE OF  
 ADMINISTRATIVE ACCOUNTS  
 Western Jumna Canal  
 No. 2—CAPITAL ACCOUNT FOR

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of construction as now estimated (Construction Estimate closed on 31st March 1895) Expenditure against closed Estimates.	
	IMPERIAL.			CONTRIBUTION.			TOTAL.				
	Previous.	1910-11.	Total.	Previous.	1910-11.	Total.	Previous.	1910-11.	Total.		
<b>I.—WORKS.</b>											
<b>I. HEAD WORKS—</b>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
<i>A.—Land</i> .. ..	4,710	..	4,710	..	..	..	4,710	..	4,710		
<i>C.—Works</i> .. ..	4,10,440	..	4,10,440	5,329	..	5,329	4,24,768	..	4,24,708		
<i>K.—Buildings</i> .. ..	42,311	..	42,311	..	..	..	42,311	..	42,311		
<i>O.—Miscellaneous</i> .. ..	13,53'	..	13,53'	..	..	..	13,539	..	13,539		
<i>P.—Maintenance</i> .. ..	21,830	..	24,830	..	..	..	21,830	..	24,830		
<b>TOTAL</b> .. ..	<b>5,04,879</b>	..	<b>5,04,838</b>	<b>5,329</b>	..	<b>5,329</b>	<b>5,10,167</b>	..	<b>5,10,167</b>		
<b>MAIN CANAL AND BRANCHES</b>											
<i>A.—Preliminary Expenses</i> .. ..	50,808	..	50,808	4,580	..	4,580	5,382	..	55,388		
<i>B.—Land</i> .. ..	2,55,612	..	2,55,544	22,250	..	22,250	2,80,801	..	2,80,801		
<i>D.—Regulators</i> .. ..	2,41,017	..	2,41,017	25,671	..	25,671	2,69,727	..	2,69,727		
<i>E.—Falls and Weirs</i> .. ..	3,61,19	..	3,61,40	22,006	..	22,006	3,93,506	..	4,03,300		
<i>F.—River and Hill Torrent Works.</i> .. ..	2,749	..	2,741	1,051	..	1,031	3,800	..	3,800		
<i>F. (1)—Other Crocs Drainage Works.</i> .. ..	2,23,617	..	2,23,617	41,187	..	41,187	2,64,754	..	2,61,754		
<i>G.—Bridges</i> .. ..	8,53,808	..	8,23,601	51,270	..	51,270	8,77,078	..	8,77,078		
<i>H.—Escapes</i> .. ..	3,40,443	..	3,40,443	13,419	..	13,419	3,63,602	..	3,63,602		
<i>I.—Navigation Works</i> .. ..	13,87,906	..	13,87,906	20,661	..	20,661	11,17,860	..	14,17,360		
<i>J.—Mills</i> .. ..	55,117	..	55,117	3,832	..	3,832	58,950	..	58,950		
<i>K.—Buildings</i> .. ..	6,68,932	+1,021	6,70,953	45,175	..	45,175	7,16,107	1,021	7,16,128		
<i>L.—Earthwork</i> .. ..	10,01,367	..	10,01,367	1,96,063	..	1,96,063	20,98,031	..	20,98,031		
<i>M.—Plantations</i> .. ..	19,032	..	19,032	4,050	..	4,050	23,682	..	23,682		
<i>O.—Miscellaneous</i> .. ..	54,289	..	54,289	3,765	..	3,765	58,057	..	58,057		
<i>P.—Maintenance</i> .. ..	1,68,661	..	1,68,861	18,441	..	18,441	1,77,306	..	1,77,306		
<b>TOTAL</b> .. ..	<b>65,54,113</b>	<b>1,021</b>	<b>65,55,134</b>	<b>5,33,795</b>	..	<b>5,33,795</b>	<b>70,87,906</b>	<b>1,021</b>	<b>70,88,921</b>		
<b>3.—DISTRIBUTORIES—</b>											
<i>A.—Preliminary Expenses</i> .. ..	65,053	..	65,053	12,973	..	12,973	78,026	..	78,026		
<i>B.—Land</i> .. ..	3,11,012	-11	3,10,898	6,956	..	6,956	3,17,967	-11	3,17,856		
<i>C.—Works</i> .. ..	11,87,716	..	11,87,716	11,30,924	..	11,30,924	13,18,647	..	13,18,647		
<i>L.—Earthwork</i> .. ..	15,05,257	..	14,05,257	1,03,612	..	1,03,612	15,70,659	..	15,70,600		
<i>O.—Miscellaneous</i> .. ..	3,88,890	..	3,88,890	29,350	..	29,350	4,18,230	..	4,18,230		
<i>P.—Maintenance</i> .. ..	54,024	..	54,024	12,583	..	12,583	67,509	..	67,509		
<b>TOTAL</b> .. ..	<b>31,12,845</b>	<b>-114</b>	<b>31,12,731</b>	<b>3,58,103</b>	..	<b>3,58,403</b>	<b>37,71,215</b>	<b>-114</b>	<b>37,71,134</b>		

ACCOUNTANT-GENERAL,  
FOR THE YEAR 1916-17.  
Project.  
AND TO END OF 1916-17.

## PUNJAB PROVINCE:

HEADS OF ACCOUNT.	DIRECT CHARGES.										Expenditure against closed Estimates.	
	IMPERIAL.			CONTRIBUTION.			TOTAL.					
	Previous	1916-17.	Total	Previous	1916-17.	Total	Previous	1916-17.	Total	Rs.		
4. DRAINAGE AND PROTECTIVE WORKS— A.—Preliminary Ex- [1,000] B.—Lead .. .. 59,623 .. 59,623 C.—Works .. .. 2,01,420 .. 2,01,420 D.—Earthwork .. .. 4,27,164 .. 4,27,164 E.—Miscellaneous .. .. 22,617 .. 22,617 TOTAL .. .. 7,68,660 .. 7,68,660	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
TOTAL I.—WORKS .. .. 1,12,91,170 .. 907,112,10,767	1,06,52	..	1,06,52	1,00,516	1,10,520	..	1,00,516	1,10,520	..	1,12,11,407		
Add expenditure on total works undertaken in 1916-17	18,24,122	..	18,24,122	..	..	18,24,122	..	18,24,122	..	..		
TOTAL .. .. 1,31,05,992 .. 937,131,74,896	1,06,52	..	1,06,52	1,00,516	1,10,520	..	1,00,516	1,10,520	..	1,40,33,530	1,40,33,530	
II.—ESTABLISHMENT												
5. Direction (a) .. .. 6,01,351 .. 6,00,935	6,01,351	..	6,00,935	6,01,351	..	6,01,351	6,00,935	6,01,351	..	6,03,146		
6. Executive .. .. 24,81,031 .. 24,81,031	24,81,031	..	24,81,031	24,81,031	..	24,81,031	24,81,031	24,81,031	..	25,50,087		
7. Special Staff .. .. 1,51,573 .. 1,51,573	1,51,573	..	1,51,573	6,71	..	6,71	1,51,573	6,71	..	1,57,545		
8. Special Fixed Ex- penses .. .. 62 .. .. 62	62	..	62	62	..	62	62	62	..	62		
19. Add to the previous A- mounts	.. .. .. ..	..	..	..	..	..	..	..	..	..	..	
TOTAL .. .. 21,63,174 .. 21,63,174	1,06,52	..	1,06,52	1,00,516	1,10,520	..	1,00,516	1,10,520	..	22,09,117		
Add extra amount for total works undertaken in 1916-17	1,12,91,170	..	1,12,91,170	..	..	1,12,91,170	..	1,12,91,170	..	..		
TOTAL .. .. 1,31,05,992 .. 937,131,74,896	1,06,52	..	1,06,52	1,00,516	1,10,520	..	1,00,516	1,10,520	..	1,40,33,530	1,40,33,530	
III.—TOOLS AND PLANT												
1. Scientific Books, etc. .. .. .. ..	..	..	..	..	..	..	..	..	..	..		
2. Plant and Machinery .. .. .. ..	..	..	..	..	..	..	..	..	..	..		
3. Tools .. .. .. ..	..	..	..	..	..	..	..	..	..	..		
4. Stationery, Library, etc. .. .. 1,17 .. .. 1,17	1,17	..	1,17	1,17	..	1,17	1,17	1,17	..	2,234		
5. Consumable Stores .. .. .. ..	..	..	..	..	..	..	..	..	..	..		
6. Letters .. .. .. ..	..	..	..	..	..	..	..	..	..	..		
7. Office Stationery .. .. .. ..	..	..	..	..	..	..	..	..	..	..		
8. Repairs and Renewals .. .. .. ..	..	..	..	..	..	..	..	..	..	..		
9. Disposal of Stores .. .. .. ..	..	..	..	..	..	..	..	..	..	..		
10. Miscellaneous .. .. .. ..	..	..	..	..	..	..	..	..	..	..		
TOTAL .. .. 1,17,76 .. 1,17,76	1,17,76	..	1,17,76	1,17,76	..	1,17,76	1,17,76	1,17,76	..	2,41,818	2,41,818	
IV.—SCRAPTURE AC- COUNT												
11. Stock .. .. 2,13,762 .. 2,13,762	2,13,762	..	2,13,762	..	..	2,13,762	..	2,13,762	..	2,13,762		
12. Forest Purchases .. .. 100 .. 100	100	..	100	100	..	100	100	100	..	100		
13. Stock Sales .. .. .. ..	..	..	..	..	..	..	..	..	..	..		
14. Mineral Sales A- ccount .. .. 62 .. 62	62	..	62	62	..	62	62	62	..	62		
TOTAL .. .. 2,13,762 .. 2,13,762	2,13,762	..	2,13,762	..	..	2,13,762	..	2,13,762	..	2,41,818	2,41,818	
Grand Total .. .. 1,40,33,530 .. 1,40,33,530	1,06,52	..	1,06,52	1,00,516	1,10,520	..	1,00,516	1,10,520	..	1,78,42,152	1,78,42,152	
V.—LESS RECEIPTS ON CAPITAL AC- COUNT												
Net Total .. .. 11,432 .. 11,432	11,432	..	11,432	475	..	475	11,432	475	..	11,432	11,432	
APPORTIONMENT												
69.—Irrigation Works .. .. 1,10,90,512 .. 1,10,90,512	1,10,90,512	..	1,10,90,512	..	..	1,10,90,512	..	1,10,90,512	..	1,10,90,512	1,10,90,512	

**Block of accounts excluded under Imperial from 1912-13.**

## IRRIGATION BRANCH.

## PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.  
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Western Jumna Canal Project.

## No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Occupiers' rates ..	..	27,79,417		..	..	..	..	..	
Owners' rate on irrigated land.	..	..		..	..	..	..	..	
Sales of water ..	..	10,364		..	168		..	..	
Supply of towns ..	..	..		..	..	..	..	..	
Receipts from Plantations.	..	22,859		..	335		..	..	
Receipts from other Canal produc.	..	720		..	1		..	..	
Water-power ..	..	3,320		..	273		..	..	
Navigation Re-ceipts.	..	73,586		..	..	..	..	..	
Rent of Buildings ..	..	7,250		..	365		..	..	
Fines ..	..	2,310		..	130		..	..	
Miscellaneous and other Receipts.	..	35,200		..	60		..	..	
Total ..	0,70,11,581	20,44,574	0,90,56,155	33,004	1,326	34,340	0,70,14,585	23,45,910	0,99,99,495
Share of Land Re-venue collected in the Civil De-partment.	1,87,00,500	2,08,015	1,00,07,515	..	..	..	1,87,00,500	2,08,015	1,90,07,515
Interest on sale pro-ceeds of waste lands benefited.	1,305	295	1,690	..	..	..	1,305	295	1,600
Total ..	1,88,00,805	2,08,310	1,00,08,205	..	..	..	1,88,00,805	2,08,310	1,00,08,205
<b>TOTAL RECEIPTS</b>	<b>11,58,12,470</b>	<b>31,52,984</b>	<b>11,89,55,360</b>	<b>33,004</b>	<b>1,335</b>	<b>34,340</b>	<b>11,58,45,486</b>	<b>31,51,220</b>	<b>11,89,99,700</b>

## IRRIGATION BRANCH.

## **PUNJAB PROVINCE.**

**OFFICE OF ACCOUNTANT GENERAL.**

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

### Western Jumna Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
(I.A.)—EXTENSIONS AND IMPROVEMENTS.									
(1).—HEAD WORKS	1,99,092	7,004	2,06,196	14,316	607	14,916	2,13,401	7,706	22,106
(2).—MAIN CANAL AND BRANCHES.	13,41,599	17,426	13,60,025	2,34,326	(a) 17,523	2,51,549	15,78,926	44,040	16,20,874
(3).—DISTRUCTORARIES	6,65,504	73,421	7,38,925	60,513	..	68,515	7,22,017	73,424	7,95,441
(4).—DRAINAGE AND PROTECTIVE WORKS	68,860	3,031	72,094	2,223	205	2,431	71,083	3,442	74,528
TOTAL I. A. . .	22,75,055	1,11,182	23,86,237	8,67,271	18,336	8,95,609	25,82,426	1,20,520	27,11,946
(I.B.)—MAINTENANCE AND REPAIRS									
(1).—HEAD WORKS	18,81,768	20,015	18,80,763	63,254	2,482	55,736	10,35,028	31,407	19,60,519
(2).—MAIN CANAL AND BRANCHES.	74,66,081	3,25,240	77,94,270	4,41,165	21,076	4,62,230	70,10,136	3,48,351	82,88,500
(3).—DISTRUCTORARIES	41,43,616	1,61,152	43,24,958	1,71,216	..	1,71,216	43,18,035	1,81,162	44,06,187
(4).—DRAINAGE WORKS	6,28,834	49,612	6,78,616	18,813	1,692	20,605	5,47,747	61,504	5,90,281
TOTAL I. B. . .	1,30,93,393	6,66,205	1,46,78,657	7,14,541	25,240	7,39,790	1,47,07,940	6,10,517	1,53,18,467
(I.C)—COMPENSATION.	1,02,953	6,827	1,09,780	2,601	456	2,497	1,04,959	7,313	1,12,272
(II).—ESTABLISHMENT.									
(A).—DIRECTION AND ACCOUNT (c)	21,10,369	55,310	21,66,679	67,372	5,109	62,671	21,07,741	61,500	22,59,250
(B).—EXECUTIVE ESTABLISHMENT	61,21,872	2,07,703	84,19,875	3,48,880	10,313	3,59,193	84,70,762	3,06,010	87,78,768
(7).—MEDICAL DO.	61,71,674	2,05,074	63,77,248	1,38,500	70	1,38,000	63,10,170	2,05,744	65,15,014
(7A).—REVENUE DO.	17,435	222	17,437	..	..	..	17,435	252	17,687
(7B).—NAVIGATION ESTABLISHMENT.	700	..	700	..	..	..	700	..	700
(7C).—PLANTATION ESTABLISHMENT.	..	..	..	..	..	..	..	..	..
(7D).—LEAVES AND PENSION ALLOWANCES.	1,123	..	1,123	80,420	2,181	82,681	80,480	2,181	82,631
(7E).—MILLS AND MACHINERY.	1,123	..	1,123	..	..	..	1,123	..	1,123
TOTAL . . .	1,64,23,163	5,89,839	1,60,93,102	6,53,206	17,763	6,73,061	1,70,78,461	5,77,702	1,76,56,163

(a). Includes Rs. 16,283 on account of seigniorage during the year. Up to date Rs. 1,88,087.

(a). Includes Rs. 10,203 on account of neighbour's during the year.  
 (b). " Rs. 75,781 on account of fees for collection of Revenue.

(c.) Share of accounts excluded under Imprison from 1812-13.

(d). Rs. 6,19,270 more would have been earned had 'not owners' rates on certain lands irrigated been remitted in favour of Revenue agriculturists.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

//  
OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Western Jumna Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.—concluded.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
(III).—TOOLS AND PLANT.									
(1).—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIAL.	1,067	5	1,060	...	...	...	1,067	582	1,649
(2).—PLANTS AND MACHINERY.	3,723	412	4,135	...	...	...	3,723	412	4,135
(3).—TOOLS	1,705	183	1,888	...	...	...	1,705	183	1,888
(4).—NAVIGATION PLANTS.	5,568	681	6,249	...	...	...	5,568	681	6,249
(5).—CAMP EQUIPMENT.	45	16	61	...	...	...	45	16	61
(6).—LIVESTOCK	..	..	..	...	...	...	..	..	..
(7).—OFFICE FURNITURE.	1,765	312	2,097	...	...	...	1,765	312	2,097
(12).—MISCELLANEOUS.	2,83,713	—165	2,83,548	22,640	574	23,214	3,06,353	409	3,06,752
(8).—REPAIRS AND CARRIAGE	2,23,111	12,148	2,40,259	522	...	522	2,28,633	12,148	2,40,781
<b>TOTAL</b>	<b>8,26,697</b>	<b>14,180</b>	<b>5,39,886</b>	<b>23,102</b>	<b>574</b>	<b>23,736</b>	<b>5,48,859</b>	<b>14,763</b>	<b>5,63,622</b>
(IV).—REFUNDS OR REVENUE.	3,70,244	1,134	3,71,378	...	...	..	3,70,244	1,134	3,71,378
(V).—PROFIT AND LOSS.	1,295	...	1,395	...	...	..	1,295	...	1,295
General work to end of 1864-65.	48,92,523	...	48,92,523	...	...	...	48,92,523	...	48,92,523
<b>TOTAL</b>	<b>3,85,84,334</b>	<b>12,78,530</b>	<b>3,98,62,873</b>	<b>17,02,373</b>	<b>62,410</b>	<b>17,64,783</b>	<b>4,02,86,507</b>	<b>13,40,949</b>	<b>4,16,27,656</b>
Indirect Charges debitable to Revenue Account as per Account No. 5.	27,01,150	78,616	27,70,766	...	..	...	27,01,150	78,616	27,70,766
<b>TOTAL CHARGES</b>	<b>4,12,85,484</b>	<b>13,57,155</b>	<b>4,26,42,030</b>	<b>17,02,373</b>	<b>62,410</b>	<b>17,64,783</b>	<b>4,29,87,867</b>	<b>14,10,565</b>	<b>4,44,07,422</b>
Balance, Not Revenue.	7,45,26,002	17,96,729	7,63,22,711	16,69,360	—61,074	—17,30,443	7,28,57,623	17,34,653	7,45,92,278
<b>GRAND TOTAL</b>	<b>11,58,12,476</b>	<b>31,52,884</b>	<b>11,89,65,300</b>	<b>33,004</b>	<b>1,336</b>	<b>34,340</b>	<b>11,58,45,480</b>	<b>31,54,220</b>	<b>11,69,99,700</b>

## IRRIGATION BRANCH.

## PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Western Jumna Canal Project.

## No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount		Amount
Total Interest charged to end of 1915-16	Rs. 2,39,02,500	Net Revenue realized to end of 1915-16 during 1915-17	Rs. 7,45,26,093
Do. for the year 1916-17	..	Do.	.. 17,95,723
Total outlay to end of 31st March 1917 = Rs. 1,68,83,536			
Less half outlay during 1916-17 = Rs. 595			
	Rs 1,68,82,941		
Interest at 8.2964 per cent ...	... 8,58,529		
Total	... 2,34,60,029		
Balances Revenue after defraying interest charges ...	5,28,63,692		
Total	... 7,63,22,721	Total	... 7,63,22,721

## No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars	Previous.	1916-17	Total
	Rs.	Rs.	Rs.
<b>CAPITAL—</b>			
Capitalization of abatement of Land Revenue ... .. ... ...	2,16,561	...	2,16,561
Leave and Pension Allowances ... { Imperial ... .. .. ..	5,93,617	31	5,93,668
Contribution ... .. .. ..	20,049	...	20,049
	Total ...	8,39,237	31
			8,39,268
Leave and Pension Allowances debited to Native States treated as direct charge and transferred to account No. 2 of the Canal.	29,049	...	29,049
Net debitible to Imperial ... .. .. .. ..	8,10,188	31	8,10,210
<b>REVENUE—</b>			
Capitalization of abatement of Land Revenue .. .. .. ..	16,592	226	16,592
Leave and Pension Allowances ... { Imperial ... .. .. ..	20,84,783	78,391	27,63,174
Contribution ... .. .. ..	80,450	2,181	82,631
	Total ..	27,81,600	80,797
			26,62,397
<b>DEDUCTION—</b>			
Leave and Pension Allowances debited to Native States treated as direct charge and transferred to account No. 3 of this Canal.	80,450	2,181	82,631
Net debitible to Imperial Revenue ... .. .. .. ..	27,01,150	78,116	27,79,766

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Western Jumna Canal Project.

## No 6—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS	CHARGES AGAINST CLOSED SANCTION			CURRENT SANCTION			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate.	Expenditure against Open Canal Sanction	Total	Charges to date	Amount of sanctioned Estimate	Unspent Balance of Estimate		
<b>IMPERIAL.</b>								
<b>DIRECT CHARGES.</b>								
Works ...	1,02,90,277	28,44,613	1,31,34,890			..	1,81,34,890	
Establishment ..	27,27,323	6,01,030	33,28,262	..	..	..	33,28,262	
Tools and Plant ..	1,77,785	40,275	2,18,060	..	..	..	2,18,060	
Suspense Balance ..	...	..	..	2,13,815	..	-2,13,815	2,13,815	
<b>Total</b> ..	<b>1,31,85,885</b>	<b>34,85,917</b>	<b>1,66,81,202</b>	<b>2,13,815</b>	<b>..</b>	<b>-2,13,815</b>	<b>1,08,95,017</b>	
<i>Less Receipts on Capital Account.</i>	11,201	280	11,481	..	..	...	11,481	
<b>Net Total</b> ...	<b>1,31,84,084</b>	<b>34,85,637</b>	<b>1,66,69,721</b>	<b>2,13,815</b>	<b>...</b>	<b>-2,13,815</b>	<b>1,08,83,536</b>	
<b>INDIRECT CHARGES.</b>								
Capitalized abatement of Land Revenue.	1,63,167	63,394	2,16,561	..	..	..	2,16,561	
Leave and Pension Allowances.	5,12,094	81,604	5,93,668	..	..	..	5,93,668	
<b>Total</b> ..	<b>6,65,261</b>	<b>1,44,998</b>	<b>8,10,219</b>	<b>..</b>	<b>..</b>	<b>...</b>	<b>8,10,219</b>	
<b>GRAND TOTAL</b> ..	<b>1,38,49,346</b>	<b>36,30,595</b>	<b>1,74,79,910</b>	<b>2,13,815</b>	<b>...</b>	<b>-2,13,815</b>	<b>1,76,93,755</b>	
<b>CONTRIBUTION.</b>								
<b>DIRECT CHARGES.</b>								
Works ...	8,34,341	66,299	9,00,640	..	..	..	9,00,640	
Establishment ..	2,17,498	19,014	2,36,512	..	..	..	2,36,512	
Tools and Plant ..	22,814	654	23,768	..	..	..	23,768	
<b>Total</b> ...	<b>10,74,653</b>	<b>86,297</b>	<b>11,60,050</b>	<b>...</b>	<b>..</b>	<b>..</b>	<b>11,60,050</b>	
<i>Less Receipts on Capital Accounts.</i>	472	..	472	..	..	..	472	
<b>Net Total</b> ..	<b>10,74,181</b>	<b>86,297</b>	<b>11,60,476</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>11,60,476</b>	
<b>GRAND TOTAL</b> ..	<b>10,74,181</b>	<b>86,297</b>	<b>11,60,476</b>	<b>...</b>	<b>..</b>	<b>..</b>	<b>11,60,476</b>	

**OFFICE OF ACCOUNTANT-GENERAL.**

**ADMINISTRATIVE ACCOUNTS FOR THE YEAR, 1916-17.**

### **Upper Baril Doab Canal Project.**

**NO. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.**

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March 1890.)	Expenditure against Closed Estimate.		
	Imperial.						
	Previous.	1916-17.	Total.				
1.—WORKS.		Rs.	Rs.	Rs.			
<b>1. HEAD WORKS—</b>							
B.—Land	..	..	..	—86	—86		
C.—Works	..	..	8,17,188	3,808	8,20,496		
K.—Buildings	..	..	63,031	2,927	65,958		
	TOTAL	8,80,219	6,149	8,86,368			
<b>2. MAIN CANAL AND BRANCHES—</b>							
A.—Preliminary Expenses	..	..	8,186	..	8,186		
B.—Land	..	..	1,44,578	—908	1,43,610		
D.—Regulators	..	..	3,52,030	..	3,52,030		
E.—Falls and Weirs	..	..	10,40,484	..	10,40,484		
F.—Rivers and Hill Torrent Works	..	..	5,39,998	..	5,39,998		
F. (1).—Other Cross Drainage Works	..	..	1,18,245	..	1,18,245		
G.—Bridges	..	..	8,62,439	..	8,62,439		
H.—Escapes	..	..	6,38,733	..	6,38,733		
I.—Navigation Works	..	..	6,78,588	..	6,78,588		
J.—Mills	..	..	1,47,530	..	1,47,530		
K.—Buildings	..	..	10,72,388	10,826	10,83,164		
L.—Earthwork	..	..	88,73,189	26,856	90,00,053		
M.—Plantations	..	..	95,475	..	95,475		
O.—Miscellaneous	..	..	5,80,609	1,27,398	7,14,007		
P.—Maintenance	..	..	75,872	..	75,872		
	TOTAL	1,00,33,403	1,64,110	1,10,97,513			
<b>3. DISTRIBUTORIES—</b>							
A.—Preliminary Expenses	..	..	24,333	..	24,333		
B.—Land	..	..	3,71,661	—1,595	3,68,766		
C.—Works	..	..	16,28,141	..	16,28,141		
L.—Earth work	..	..	16,98,384	..	16,98,384		
O.—Miscellaneous	..	..	3,27,080	—7,231	3,19,849		
P.—Maintenance	..	..	8,354	..	8,354		
Add Dina Nagar Navigation Channel	..	..	35,776	..	35,776		
Shahpur Water Courses	..	..	63,427	..	63,427		
Lahore City Rajbaha	..	..	12,724	..	12,724		
	TOTAL	41,08,830	9,120	41,50,754			

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Upper Bari Doab Canal Project.

## No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES			Cost of construction as now estimated (Construction Estimate closed on 31st March 1890)	Expenditure against Closed Estimates.		
	Imperial.		Total				
	Previous	1916-17					
	Rs	Rs	Rs	Rs	Rs		
<b>4.—DRAINAGE AND PROTECTIVE WORKS—</b>							
<i>A.—Preliminary Expenses</i> .. ..	539	...	539				
<i>B.—Land</i> .. ..	6,519	...	6,519				
<i>C.—Works</i> .. ..	28,906	...	28,905				
<i>L.—Earthwork</i> .. ..	95,247	...	95,247				
<i>O.—Miscellaneous</i> .. ..	1,163	...	1,163				
<b>TOTAL</b>	<b>1,23,374</b>	...	<b>1,23,374</b>				
<b>TOTAL I. WORKS.</b>	<b>1,61,15,76</b>	<b>4,61,133</b>	<b>1,62,77,009</b>	<b>1,65,04,914</b>	<b>1,67,30,482</b>		
<b>II.—ESTABLISHMENT</b>							
5. Direction .. ..	8,48,319	3	8,48,322				
6. Executive .. ..	26,44,750	—35,780	26,08,961				
7. Medical .. ..	5,465	...	5,465				
<b>TOTAL</b>	<b>34,98,734</b>	<b>—35,780</b>	<b>34,62,746</b>	<b>34,73,497</b>	<b>34,25,290</b>		
<b>III.—TOOLS AND PLANT</b>							
Plant and Machinery .. ..	256	3,673	3,631				
4. Navigation Plant .. ..	22	...	22				
8. Repairs and Carriage .. ..	2,360	...	2,360				
Miscellaneous .. ..	9,13,237	—3,161	9,10,086				
<b>TOTAL</b>	<b>0,16,877</b>	<b>422</b>	<b>0,16,298</b>	<b>9,13,401</b>	<b>8,05,258</b>		
<b>IV.—SUSPENSE ACCOUNT</b>							
14. Stock .. ..	5,12,941	—50,637	4,62,304				
15. Stock Purchases .. ..	—1,440	—3,770	—5,219				
15a. Stock Sale .. ..	113	483	596				
16. Miscellaneous Advances .. ..	0,152	—2,695	3,556				
18. London Stores .. ..	09,403	—69,403	..				
<b>TOTAL</b>	<b>6,17,160</b>	<b>—1,55,024</b>	<b>4,01,937</b>				
<b>GRAND TOTAL</b>	<b>2,11,47,447</b>	<b>—30,164</b>	<b>2,11,17,203</b>	<b>2,08,01,862</b>	<b>2,00,61,030</b>		
<b>V.—Less RECEIPTS ON CAPITAL ACCOUNT.</b>							
16,045	..	16,955	19,045	16,955			
<b>NET TOTAL</b>	<b>2,11,30,492</b>	<b>—30,164</b>	<b>2,11,00,338</b>	<b>2,08,74,007</b>	<b>2,00,34,076</b>		
<b>APPORTIONMENT.</b>							
49.—Irrigation Works .. ..	2,11,30,492						

(a). Share of accounts excluded from 1012-13.

## IRRIGATION BRANCH.

## PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Upper Bari Doab Canal Project.

## No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.			
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.	
					Rs.	Rs.	Rs.	
Occupiers' rates	9,00,53,408	42,07,119	10,02,60,617	(1.)—EXTENSIONS AND IMPROVEMENTS.	3,46,306	41,728	3,87,123	
				(2.)—MAIN CANAL AND BRANCHES	14,52,811	24,782	14,77,503	
				(3.)—DISTRIBUTORIES	12,57,009	33,017	12,87,056	
				(4.)—DRAINAGE AND PROTECTIVE WORKS.	1,90,837	7,274	1,88,111	
Owners' rates on irrigated land.	8,675	..	8,675	TOTAL I. A. ..	32,32,042	1,00,841	33,39,888	
Sales of water	7,31,818	34,684	7,66,502	(1. B.)—MAINTENANCE AND REPAIRS.				
				(1.)—HEAD WORKS ..	47,26,213	32,937	47,69,160	
				(2.)—MAIN CANAL AND BRANCHES	87,85,331	2,52,360	80,37,681	
				(3.)—DISTRIBUTORIES ..	44,04,540	1,63,452	45,68,001	
Supply of towns	2,693	984	8,577	(4.)—DRAINAGE WORKS ..	1,12,321	14,801	1,27,182	
				TOTAL I. B. ..	1,80,28,414	4,03,600	1,84,02,014	
Receipts from Plantations	10,46,595	28,833	10,75,528	I. C.—COMPENSATION.	40,322	..	49,322	
				(II.)—ESTABLISHMENT.				
Receipts from other Canal produce.	2,40,714	1,736	2,42,410	(1.)—DIRECTION AND ACCOUNTS.	22,66,120	64,093	(a) 23,29,222	
				(2.)—EXECUTIVE ESTABLISHMENT	82,42,516	3,84,509	86,27,085	
				(3.)—MEDICAL Do. ..	1,17,940	5,403	1,23,349	
Water-power	42,97,738	1,19,457	44,17,193	(7.A.)—REVENUE Do. ..	68,17,687	2,90,008	70,63,606	
				(7.C.)—PLANTATION Do. ..	40,155	..	40,155	
				(7.D.)—LEAVE AND PENSION ALLOWANCE	62	..	62	
				TOTAL ..	1,74,83,495	7,20,073	1,82,03,568	
Navigation Receipts	5,477	..	5,477	III. FDS AND PLANT.				
				(1.)—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS	107	820	925	
Rent of Buildings	7,802		7,802	(2.)—PLANT MACHINERY ..	8,142	51	8,193	
				(3.)—TOOLS ..	1,763	627	2,590	
Fines	14,61,639	2,152	16,03,143	(4.)—NAVIGATION PLANT ..	30	713	743	
				(5.)—CAMP EQUIPMENTS ..	121	..	121	
Miscellaneous and other Receipts.	1,40,520		1,40,520	(6.)—LIVE STOCK ..	157	47	627	
				(7.)—OFFICE FURNITURE ..	2,295	68	2,681	
				(8.)—REPAIRS AND GARNISHES ..	2,83,360	20,681	3,03,083	
				(9.)—MISCELLANEOUS ..	3,03,167	3,12	3,66,204	
				TOTAL III TOOLS AND PLANT.	6,50,080	2,277	6,86,357	
Total	10,36,30,616	45,43,416	10,81,81,032	(IV.)—REFUNDS OF REVENUE	1,06,167	3,427	1,17,914	
				(V.)—PROFIT AND LOSS.	1,073	..	1,073	
Share of Land Revenue collected in the Civil Department.	1,49,00,836	6,00,120	1,55,00,956	TOTAL ..	3,96,22,903	13,21,218	4,10,44,121	
Interest on sale proceeds of waste lands benefited.	7,50,542	68,748	8,19,261	Indirect Charges debitable to Revenue Account as per Account No. 5.	27,50,190	1,01,335	28,57,625	
				TOTAL CHARGES ..	4,23,70,093	14,22,553	4,38,01,848	
TOTAL ..	1,50,51,378	6,08,875	1,03,20,253	Balance, Net Revenue ..	7,71,11,930	37,80,758	8,09,01,668	
TOTAL RECEIPTS ..	11,04,01,023	62,12,201	11,47,03,314	GRAND TOTAL ..	11,04,01,023	52,12,201	12,47,03,314	

(a). Share of Accounts excluded from 1912-13.

(b). Includes Rs. 1,19,016 on account of fees for collection of revenue.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Upper Bari Doab Canal Project.

## No. 4—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1915-16 ..	3,45,75,931	Net Revenue realized to end of 1915-16 ..	7,71,11,930
Do. for the year 1916-17 ..		Do. during 1916-17 ..	27,59,738
Total outlay to end of March 1917=Rs. 2,11,00,338			
Less half outlay during 1916-17= " 15,077			
Mean Capital at charge 2,11,15,415			
Interest at 3-29% per cent. on above ..	6,90,049		
Total ..	3,62,71,980		
Balance Revenue after defraying Interest charges	4,50,20,689		
Total ..	8,00,01,668	Total ..	8,00,01,668

## No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17

	Particulars.		Previous.	1916-17.	Total.
<b>CAPITAL</b>					
Capitalization of abatement of Land Revenue	..	..	Rs. 20,636	Rs. 25	Rs. 20,051
Leave and Pension Allowances ..	..	..	7,21,369	—5,010	7,16,359
		Total ..	7,42,006	—4,085	7,37,920
<b>REVENUE</b>					
Capitalization of abatement of Land Revenue	..	..	19,574	525	20,099
Leave and Pension Allowances ..	..	..	27,86,616	1,00,810	28,87,426
		Total ..	27,66,190	1,01,335	28,57,525

## No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGE SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.		
	Expendi- ture against Construction Estimate.	Expendi- ture against open canal sanctions.	Total.	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.		Authority.	No. and date.	Amount
<b>DIRECT CHARGES—</b>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		Rs.	
Works ..	1,24,50,791	32,70,601	1,57,30,482	5,40,527	7,74,432	2,27,905	1,02,77,009	G. I.	935 I	1,22,989
Establishment ..	27,91,452	6,83,838	34,25,200	37,458	48,107	10,730	34,62,748	G. I.	16-6-14 479 I	1,33,894
Tools and Plant ..	4,08,216	3,97,043	6,05,258	21,041	18,203	—2,638	9,16,299	Secy.	29-4-15 1138 W. L	8,506
Suspense Balances ..	..	..	..	4,61,237	..	—4,61,237	4,61,237	I. B.	0-3-15	
								Secy.	731 W. I.	
								I. B.	4-2-13	
Total ..	1,67,40,468	43,10,572	2,00,51,030	10,66,203	8,40,532	—2,25,431	2,11,17,293		1745 I	3,696
<b>Less Receipts on Capital Account</b>	10,955	..	16,055	..	..	..	16,955	G. I.	20-11-13 308	5,05,683
								S. E.	20-1-16	837
									7370	
Net Total ..	1,57,23,503	43,10,572	2,00,34,076	10,66,263	8,40,932	—2,25,431	2,11,00,336	S. E.	22-11-16	2,058
<b>INDIRECT CHARGES—</b>									1835	
Capitalized abate- ment of Land Revenue.	8,381	12,280	20,661	..	..	..	20,661	S. E.	22-3-15	230
Leave and Pension Allowances.	8,22,375	88,737	7,11,112	5,247	..	—5,247	7,11,350	Secy.	2706	41,752
								I. B.	29-10-08	
Total ..	6,30,756	1,01,017	7,31,777	5,247	..	—5,247	7,37,020	Do.	120	11,145
								Do.	0-1-17 76	
<b>GRAND TOTAL</b>	1,63,54,250	44,11,589	2,07,65,848	10,71,510	8,40,832	—2,30,678	2,18,37,356	Do.	15-12-16	4,942
								Do.	75	4,700
								Do.	18-12-16	8,40,832

OFFICE OF ACCOUNTANT-GENERAL.  
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Sirhind Canal Project.

## No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of construction as now estimated (Construction Estimate closed on 31st March).	Expenditure against closed Estimates.		
	IMPERIAL.			CONTRIBUTION.			TOTAL.						
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.				
<b>I.—WORKS.</b>													
<b>1. Head Works—</b>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.				
<i>A.—Preliminary expenses.</i>	Ex- penses.	493	...	493	272	...	272	765	...	765			
<i>B.—Land</i>	...	7,063	...	7,063	3,074	...	3,074	11,037	...	11,037			
<i>C.—Works</i>	...	9,17,711	23,217	9,40,928	5,16,213	13,060	5,29,273	14,33,921	36,277	14,70,201			
<i>E.—Buildings</i>	...	69,066	2,976	72,011	38,919	1,674	40,523	1,07,914	4,050	1,12,504			
<i>G.—Miscellaneous</i>	...	73,604	...	73,604	3,635	...	3,635	77,342	...	77,342			
<i>P.—Maintenance</i>	...	24,101	...	24,101	13,659	...	13,659	37,663	...	37,663			
<b>TOTAL.</b>		10,92,230	24,103	11,16,423	5,76,105	14,734	5,01,139	16,68,636	40,927	17,09,562			
<b>2.—MAIN CANAL AND BRANCHES—</b>													
<i>A.—Preliminary expenses.</i>	Ex- penses.	23,536	...	23,536	19,305	...	10,308	42,034	...	42,934			
<i>B.—Land</i>	...	5,69,850	...	5,69,850	2,61,332	...	2,64,332	8,14,212	...	8,14,212			
<i>D.—Regulators</i>	...	1,18,720	...	4,18,720	2,95,927	...	2,95,927	7,13,747	...	7,13,747			
<i>E.—Falls and Weirs</i>	...	7,74,038	...	7,74,038	3,07,909	...	3,07,909	11,72,847	...	11,72,847			
<i>F.—(1).—Other Cross Drainage Works.</i>	...	12,32,667	...	12,32,667	10,11,540	...	10,11,540	22,71,136	...	22,74,136			
<i>G.—Bridges</i>	...	3,05,833	2,572	8,09,406	4,80,950	—277	4,80,672	12,95,782	2,296	12,98,077			
<i>H.—Escarpments</i>	...	1,80,686	...	1,80,686	1,03,313	...	1,03,313	2,89,099	...	2,89,099			
<i>I.—Navigation Works</i>	...	17,47,251	...	17,47,251	3,61,310	...	3,61,310	21,31,600	...	21,31,600			
<i>J.—Mills</i>	...	41,513	...	41,513	...	...	...	41,513	...	41,513			
<i>K.—Buildings</i>	...	9,41,930	...	9,44,956	3,10,346	...	3,10,346	12,55,301	...	12,55,301			
<i>L.—Earthwork</i>	...	18,83,844	—7,731	18,76,023	31,61,614	...	31,01,014	80,45,438	—7,731	80,37,707			
<i>M.—Plantations</i>	...	1,20,512	...	1,20,812	1,01,358	...	1,01,358	2,25,170	...	2,25,170			
<i>N.—Tanks and Reservoirs</i>	...	1,910	...	1,910	...	...	...	1,040	...	1,940			
<i>O.—Miscellaneous</i>	...	57,807	...	87,807	77,397	...	77,397	1,65,281	...	1,65,281			
<i>P.—Maintenance</i>	...	2,27,821	...	2,27,821	2,03,076	...	2,03,076	4,30,896	...	4,30,896			
<b>TOTAL</b>	...	120,98,197	—6,159	120,63,038	8,45,602	—217	68,46,326	180,06,709	—6,430	180,01,363			
<b>2.—DISTRIBUTARIES—</b>													
<i>A.—Preliminary expenses.</i>	Ex- penses.	51,008	...	61,008	30,471	...	30,471	91,379	...	91,379			
<i>B.—Land</i>	...	3,80,636	...	3,80,636	72,601	...	72,601	4,60,137	...	4,60,137			
<i>C.—Works</i>	...	14,08,001	...	14,08,001	7,06,007	...	7,06,007	22,03,008	...	22,03,008			
<i>L.—Earthwork</i>	...	10,67,046	...	10,67,046	0,77,701	...	0,77,701	20,36,738	...	20,36,738			
<i>O.—Miscellaneous</i>	...	2,56,485	...	2,56,485	17,803	...	17,803	2,73,288	...	2,73,288			
<i>P.—Maintenance</i>	...	...	...	...	...	...	...	...	...	...			
<b>TOTAL</b>	...	37,60,870	21,034	37,50,870	10,02,074	14,457	19,02,074	60,02,650	...	60,02,650			

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Sirhind Canal Project.

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of construction as now estimated. (Construction Estimate made closed on 31st March.)	Expenditure against Estimates.	Expenditure closed			
	IMPERIAL.			CONTRIBUTION.			TOTAL.								
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.						
DETECTION AND PROTECTIVE WORKS.															
A.—Preliminary Expenses.	Rs. 31	Rs. ..	Rs. 31	Rs. 17	Rs. ..	Rs. 17	Rs. 48	Rs. ..	Rs. 48	Rs.	Rs.	Rs.			
B.—Land	Rs. 55,082	Rs. ..	Rs. 55,082	Rs. 44,530	Rs. ..	Rs. 44,536	Rs. 1,00,518	Rs. ..	Rs. 1,00,518						
C.—Works	Rs. 3,303	Rs. ..	Rs. 3,303	Rs. 1,858	Rs. ..	Rs. 1,856	Rs. 5,161	Rs. ..	Rs. 5,161						
L.—Earthwork	Rs. 5,31,372	Rs. ..	Rs. 5,31,372	Rs. 3,24,092	Rs. ..	Rs. 3,24,092	Rs. 9,66,464	Rs. ..	Rs. 9,66,464						
O.—Miscellaneous	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..						
P.—Maintenance	Rs. 2,622	Rs. ..	Rs. 2,622	Rs. 1,475	Rs. ..	Rs. 1,475	Rs. 4,097	Rs. ..	Rs. 4,097						
TOTAL	Rs. 5,93,310	Rs. ..	Rs. 5,93,310	Rs. 4,71,078	Rs. ..	Rs. 4,71,078	Rs. 10,06,288	Rs. ..	Rs. 10,06,288						
TOTAL I.—WORKS	Rs. 1,75,03,613	Rs. 21,034	Rs. 1,75,24,047	Rs. 97,00,650	Rs. 14,467	Rs. 98,14,110	Rs. 1,73,03,272	Rs. 35,401	Rs. 2,78,3,761	Rs. 73,54,170	Rs. 2,73,24,203				
II.—ESTABLISHMENT.															
5. DIRECTION	Rs. ..	Rs. -992	Rs. -992	Rs. ..	Rs. 867	Rs. 807	Rs. ..	Rs. -116	Rs. -116						
6. EXECUTIVE	Rs. ..														
7. MEDICAL	Rs. ..														
8. SPECIAL SURVEY	Rs. 40,65,080	Rs. -120	Rs. 40,63,960	Rs. 28,29,614	Rs. -131	Rs. 28,29,383	Rs. 74,84,603	Rs. -1,261	Rs. 74,83,362						
9. SPECIAL FIXED SURVEY	Rs. ..														
LEAVE AND PENSION ALLOWANCES	Rs. ..	Rs. ..	Rs. ..	Rs. 5,39,020	Rs. 103	Rs. 5,40,053	Rs. 5,39,050	Rs. 103	Rs. 5,40,053						
TOTAL	Rs. 46,65,080	Rs. -2,102	Rs. 46,62,987	Rs. 33,60,464	Rs. 83	Rs. 33,70,393	Rs. 80,24,553	Rs. -1,263	Rs. 80,23,290	Rs. 80,33,401	Rs. 80,28,975				
III.—TOOLS AND PLANT.															
9. NAVIGATION PLANT	Rs. ..														
10. MILL PLANT	Rs. ..														
11. RAILWAY PLANT AND ROLLING STOCK.	Rs. 21,05,216	Rs. -90	Rs. 21,05,117	Rs. 11,90,922	Rs. -12	Rs. 11,90,910	Rs. 32,06,138	Rs. -111	Rs. 32,06,027						
12.—MISCELLANEOUS.	Rs. ..														
13.—REPAIRS AND CAR RIAGE.	Rs. ..														
Loss by Exchange	Rs. 2,740	Rs. ..	Rs. 2,740	Rs. 10,508	Rs. ..	Rs. 10,564	Rs. 13,308	Rs. ..	Rs. 13,308						
TOTAL	Rs. 21,07,956	Rs. ..	Rs. 21,07,857	Rs. 12,01,400	Rs. -12	Rs. 12,01,471	Rs. 33,00,446	Rs. -111	Rs. 33,00,336	Rs. 37,10,107	Rs. 38,09,732				
IV.—SUSPENSE ACCOUNT.															
STOCK	Rs. 1,84,824	Rs. 18,615	Rs. 2,03,439	Rs. ..	Rs. ..	Rs. ..	Rs. 1,84,824	Rs. 18,615	Rs. 2,03,439						
14. STOCK PURCHASES	Rs. -186	Rs. -164	Rs. -350	Rs. ..	Rs. ..	Rs. ..	Rs. -186	Rs. -164	Rs. -350						
15. STOCK SALES	Rs. 55	Rs. -50	Rs. 5	Rs. ..	Rs. ..	Rs. ..	Rs. 55	Rs. -50	Rs. 5						
16. MISCELLANEOUS ADVANCES.	Rs. 1,278	Rs. -685	Rs. 593	Rs. ..	Rs. ..	Rs. ..	Rs. 1,278	Rs. -686	Rs. 602						
17. LONDON INVOICING	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..						
18. LONDON STORES	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..	Rs. ..						
TOTAL	Rs. 1,85,071	Rs. 17,710	Rs. 2,03,677	Rs. ..	Rs. ..	Rs. ..	Rs. 1,85,071	Rs. 17,710	Rs. 2,03,667						
GRAND TOTAL	Rs. 2,44,52,628	Rs. 36,540	Rs. 2,44,89,178	Rs. 14,70,813	Rs. 16,284	Rs. 14,88,867	Rs. 18,82,242	Rs. 61,839	Rs. 8,68,76,075	Rs. 3,80,97,741	Rs. 3,88,62,011				
V.—LESS RECEIPTS ON CAPITAL ACCOUNT.	Rs. 1,07,518	Rs. ..	Rs. 1,07,518	Rs. 68,005	Rs. ..	Rs. 68,605	Rs. 1,76,126	Rs. ..	Rs. 1,76,126						
NET TOTAL	Rs. 2,43,45,111	Rs. 36,540	Rs. 2,43,81,660	Rs. 14,30,005	Rs. 16,284	Rs. 14,88,17,289	Rs. 3,80,47,110	Rs. 51,833	Rs. 3,86,98,040						
APPORTIONMENT.															
49. IRRIGATION WORKS	Rs. 2,43,45,111	Rs. 36,540	Rs. 2,43,81,660	Rs. 14,30,005	Rs. 16,284	Rs. 14,88,17,289	Rs. 3,80,47,110	Rs. 51,833	Rs. 3,86,98,040						
43. M. W. AND NAVIGATION															
IMPERIAL															
PROVINCIAL															

(a). Share of accounts excluded from 1913-14.

## IRRIGATION BRANCH.

## PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.  
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.  
Sirhind Canal Project.

## No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Occupiers' rates	6,88,20,800	39,53,905	7,27,80,771	10,931	2,602	13,573	6,88,37,790	39,56,067	7,27,94,447
Sales of water	3,86,270	26,000	4,12,270	18,810	15	18,825	4,05,110	26,015	4,31,125
Supply of towns	1,200	220	1,420	—	—	—	1,200	220	1,420
Receipts from Plantations	6,35,801	31,344	6,67,145	2,03,175	26,821	2,30,996	6,35,070	52,106	6,88,141
Receipts from other Canal produce	1,79,760	1,510	1,81,260	1,03,205	28	1,03,203	2,83,021	1,538	2,84,559
Water power	18,84,840	1,03,000	19,89,840	8,54,017	14,780	8,98,797	27,38,903	1,45,080	28,87,040
Navigation Receipts	2,11,676	9,793	2,21,470	1,03,960	5,710	1,09,256	3,15,634	16,141	3,30,725
Rent of Buildings	1,13,486	5,510	1,18,096	47,843	1,762	49,605	1,61,325	7,262	1,68,590
Fines	56,602	1,157	47,759	510	—	510	10,118	1,167	47,275
Miscellaneous and other Receipts	16,70,068	85,12	16,85,701	16,551	1,062	16,613	16,22,310	80,186	17,11,404
<b>TOTAL</b>	<b>7,88,62,260</b>	<b>42,21,536</b>	<b>7,26,63,895</b>	<b>13,85,100</b>	<b>76,400</b>	<b>14,01,500</b>	<b>7,50,47,300</b>	<b>42,98,036</b>	<b>7,93,46,404</b>
Share of Land Revenue collected in the Civil Department.	1,63,064	1,42,791	2,05,855	—	—	—	1,63,064	1,42,791	2,05,855
Interest on sale-proceeds of waste land benefited.	—	—	—	—	—	—	—	—	(—)
<b>TOTAL RECEIPTS</b>	<b>7,88,15,337</b>	<b>43,04,330</b>	<b>7,81,79,603</b>	<b>13,85,100</b>	<b>76,490</b>	<b>14,01,500</b>	<b>7,52,00,433</b>	<b>44,40,826</b>	<b>7,96,41,259</b>

IRRIGATION BRANCH.

PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Sirhind Canal Project.

## No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.		Previous.	1916-17.		Previous.	1916-17.	
		1916-17.	Total.	Rs.	Rs.	Total.	Rs.	Rs.	Rs.
<b>(I.A.)—EXTENSIONS AND IMPROVEMENTS.</b>									
(1)—HEAD WORKS ..	1,92,331	28,223	2,20,550	1,08,027	15,878	1,23,905	3,06,353	44,100	3,44,454
(2)—MAIN CANAL AND BRANCHES ..	10,11,591	44,447	10,56,038	18,14,746	(a) 1,03,989	10,18,745	28,26,337	1,48,440	20,74,788
(3)—DISTRIBUTARIES ..	6,31,930	60,400	7,41,330	14,302	..	13,202	6,90,552	59,400	7,59,052
(4)—DRAINAGE AND PROTECTIVE WORKS ..	41,280	3,197	44,477	20,452	1,708	22,250	61,732	4,095	66,727
<b>TOTAL I. A. ..</b>	<b>18,30,102</b>	<b>1,35,272</b>	<b>20,66,464</b>	<b>10,67,157</b>	<b>1,21,075</b>	<b>20,70,162</b>	<b>38,87,670</b>	<b>2,50,947</b>	<b>41,44,626</b>
<b>(I.B.)—MAINTENANCE AND REPAIRS</b>									
(1)—HEAD WORKS ..	7,50,011	14,149	7,73,159	4,22,403	7,958	4,30,353	11,61,417	22,100	12,03,523
(2)—MAIN CANAL AND BRANCHES ..	39,50,876	3,47,002	43,07,478	23,01,660	1,90,560	25,61,116	63,21,122	8,47,471	68,68,693
(3)—DISTRIBUTARIES ..	43,82,001	1,84,913	45,71,507	368	..	366	43,83,360	1,89,813	45,72,173
(4)—DRAINAGE WORKS ..	6,02,320	24,061	6,27,301	3,13,705	14,231	3,27,039	6,10,025	30,216	8,55,240
<b>TOTAL I. B. ..</b>	<b>96,04,201</b>	<b>5,73,611</b>	<b>1,01,70,716</b>	<b>30,07,724</b>	<b>2,32,061</b>	<b>33,10,784</b>	<b>1,27,01,024</b>	<b>7,87,605</b>	<b>1,34,00,529</b>
<b>(I.C.)—COMPENSATION ..</b>									
<b>(II)—ESTABLISHMENT</b>	<b>30,211</b>	<b>140</b>	<b>30,351</b>	<b>13,117</b>	<b>..</b>	<b>13,447</b>	<b>49,058</b>	<b>140</b>	<b>49,705</b>
<b>(III)—DIRECTION AND ACCOUNT</b>									
(5)—DIRECTOR AND ACCOUNTANT ..	11,22,881	48,509	11,71,392	3,40,683	22,800	3,69,570	14,69,567	71,404	16,40,971
(6)—EXECUTIVE ESTABLISHMENT ..	40,69,901	+7,451	+7,451	17,91,962	{ 87,042	18,75,864	{ 61,60,763	{ 3,23,210	{ 67,58,973
(7)—MEDICAL Do ..	1,69,626	9,724	1,78,353	51,910	+1,763	+1,763	+21,435	+8,214	+8,214
(7A)—REVENUE Do ..	82,58,000	2,72,168	65,30,460	10,610	777	11,387	52,08,610	2,73,210	65,41,856
(7B)—NAVIGATION Do ..	20,930	147	21,077	..	..	..	20,930	147	21,077
(7D)—LIAISE AND PENSION ALLOWANCE (14 PCT. CEN. ON RS 77,918)	..	..	..	3,09,370	15,642	3,25,021	3,09,370	+15,642	3,35,021
<b>TOTAL ..</b>	<b>1,12,40,340</b>	<b>6,77,571</b>	<b>1,18,17,911</b>	<b>25,13,311</b>	<b>1,27,373</b>	<b>26,40,717</b>	<b>1,37,73,694</b>	<b>7,04,944</b>	<b>1,44,58,629</b>

(a) Includes seigniorage amounting to Rs. 52,363 during the year and up to date Rs.

(b) Includes Rs 1,27,574 on account of fees for collection of Revenue.

(c) Share of account under Imperial excluded from 1914-15.

## IRRIGATION BRANCH.

## PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

### Sirhind Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1910-17.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total	Previous.	1916-17.	Total	Previous.	1916-17.	Total
(III). TOOLS AND PLANT.									
(1).—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS.	1,717	—432	1,285	549	364	910	2,203	—67	2,196
(2).—PLANT AND MACHINERY	150	1,075	1,225	64	1,461	1,548	234	3,140	3,374
(3).—TOOLS	4,630	2,077	6,707	1,405	565	2,270	8,035	2,942	8,977
(4).—NAVIGATION	4,700	—10	4,690	2,407	443	2,850	7,10	433	7,549
(5).—CAMP EQUIPAGE	16,605	60	16,665	8,845	27	8,873	10,451	67	18,538
(6).—LIVE STOCK	..	..	..	..	..	..	..	..	..
(7).—OFFICE FURNITURE	1,935	378	2,314	986	325	1,311	2,021	703	3,024
(8).—REPAIRS AND CARRIAGE	1,75,264	20,407	1,56,071	50,615	8,803	67,448	1,95,000	27,610	2,23,619
MISCELLANEOUS	3,10,100	—8,159	3,01,940	1,02,611	—602	1,01,801	4,12,020	—2,435	4,10,485
								(a)+18	18
								—5,051	—5,054
<b>TOTAL</b>	<b>4,68,410</b>	<b>16,084</b>	<b>4,85,507</b>	<b>1,77,430</b>	<b>0,680</b>	<b>1,87,110</b>	<b>0,40,840</b>	<b>25,777</b>	<b>6,72,626</b>
(IV).—REFUNDS OF REVENUE.									
(V).—PROFIT AND LOSS ..	78,807	651	79,621	2,696	3,970	6,656	81,403	4,524	86,087
(VI).—SUSPENSE ACCOUNT	372	..	372	85	..	66	457	..	457
MISCELLANEOUS ADVANCES	..	..	..	2,247	—2,227	..	2,927	—2,227	..
STOCK	..	..	..	14,455	3,544	18,032	14,488	3,544	18,032
STOCK SALES	..	..	..	30	—30	..	30	—30	..
STOCK PURCHASE	..	..	..	—48	48	..	—48	48	..
<b>TOTAL SUSPENSE ACCOUNT</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>18,507</b>	<b>1,336</b>	<b>18,032</b>	<b>16,807</b>	<b>1,335</b>	<b>18,032</b>
<b>TOTAL</b>	<b>4,33,69,802</b>	<b>13,03,209</b>	<b>2,46,04,971</b>	<b>77,78,600</b>	<b>4,80,103</b>	<b>82,63,012</b>	<b>3,11,38,411</b>	<b>17,91,372</b>	<b>3,29,20,783</b>
Indirect Charges debitable to Revenue Account as per count No. 5	15,80,007	82,635	16,02,002	..	..	..	15,80,007	82,635	16,02,602
<b>TOTAL CHARGES</b>	<b>2,49,39,060</b>	<b>13,97,801</b>	<b>2,03,27,473</b>	<b>77,78,600</b>	<b>4,80,103</b>	<b>82,61,012</b>	<b>3,27,18,478</b>	<b>18,78,007</b>	<b>3,45,98,385</b>
Balance, Not Revenue	4,88,75,661	20,70,526	6,18,52,100	—33,83,709	—1,00,007	—58,03,310	4,34,81,065	26,68,010	4,60,49,874
<b>GRAND TOTAL</b>	<b>7,38,15,333</b>	<b>48,01,330</b>	<b>7,91,79,683</b>	<b>13,95,100</b>	<b>70,305</b>	<b>14,01,500</b>	<b>7,52,00,433</b>	<b>41,40,820</b>	<b>7,06,41,250</b>

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Sirhind Canal Project.

## No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount		Amount
	Rs.		Rs.
Total Interest charges to end of 1915-16	3,81,40,035	Net Revenue realized to end of 1915-16	4,88,75,664
Do. for the year 1916-17	20,76,527	Do. during 1916-17	
Total outlay to end of March 1917 = 2,43,81,680			
Less half outlay during 1916-17 = 18,274			
Mean capital at charge = 2,43,83,386			
Interest at 3 2/8% per cent	8,03,114		
TOTAL	3,39,43,149		
Balance Revenue after defraying Interest charges	1,79,00,042		
<b>TOTAL</b>	<b>5,18,62,191</b>	<b>TOTAL</b>	<b>5,18,62,101</b>

## No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

	Particulars	Previous.	1916-17	Total
		Rs.	Rs.	Rs.
<b>CAPITAL—</b>				
Capitalization of abatement of Land Revenue	... .. ...	3,20,009	... ..	3,20,009
Leave and Pension Allowances	Imperial .. .. ..	8,91,348	204	8,91,054
	Contribution .. .. ..	5,39,950	103	5,40,053
	<b>Total</b>	<b>17,51,307</b>	<b>101</b>	<b>11,71,200</b>
<i>Deduct</i> Leave and Pension allowances debited to Native States treated as direct charges and transferred to Account No. 2 of the canal.		5,39,950	103	5,40,053
Net debitable to Imperial Canal	... .. .. ..	12,11,147	—294	12,11,153
<b>REVENUE—</b>				
Capitalization of abatement of Land Revenue	... .. .. ..	6,423	1,676	8,098
Leave and Pension Allowances	Imperial .. .. ..	15,73,644	80,860	16,54,504
	Contribution .. .. ..	3,09,370	15,042	3,25,021
	<b>Total</b>	<b>18,89,446</b>	<b>98,177</b>	<b>19,87,623</b>
<i>Deduct</i> Leave and Pension allowances debited to Native States treated as direct charges and transferred to Account No. 3 of the canal.		3,09,370	15,042	3,25,021
Net Imperial Revenue	... .. .. ..	15,80,067	82,535	16,62,602

## IRRIGATION BRANCH.

PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Sirhind Canal Project.

## No. 0—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGES AGAINST CLOSING SANCTIONS.			CURRENT SANCTIONS			Total charges to date against old and current sanctions	REMARKS
	Expenditure against Construction Estimate	Expenditure against open canal sanctions	Total	Charges to date	Amount of Sanctioned Estimate	Unspent Balance of Estimate		
1	2	3	4	5	6	7	8	9
IMPERIAL								
DIRECT CHARGES—								
Works	1,56,33,673	19,77,723	1,76,11,39	13,251	15,660	309	1,75,24,647	L.G. No 317 W.I., dated 20-1-17 = Rs 13,054.
Establishment	42,71,834	3,88,604	46,60,464	—7,378	4,657	11,982	16,54,987	L.G. No. 327 W.I., dated 14-1-17 = Rs 0,361 (a).
Tools and Plant	20,62,861	25,180	21,06,040	—143	310	502	21,07,867	L.G. No. 0657 W.I., dated 12-7-16 = Rs 8051.
Suspended Balance	..	..	..	2,03,647	..	—2,03,087	2,03,087	30,466
Total	2,19,59,151	22,91,117	2,12,71,739	2,00,750	30,160	—1,78,014	2,44,80,178	
Less Receipts on Capital Account.	1,07,615	..	1,07,615	..	..		1,07,615	
Net Total	2,18,50,863	22,91,417	2,11,72,240	2,00,350	30,160	—1,78,014	2,13,81,06	
INDIRECT CHARGES—								
Capitalized obatvement of Land Revenue.	1,16,270	1,820	3,00,090	..	..		3,20,090	
Leave and Pension Allowances	5,37,694	54,394	8,02,067	—1,033	..	1,033	8,01,051	
Total	11,62,874	69,213	12,12,154	—1,033	..	1,033	12,11,158	
GRAND TOTAL	2,30,33,836	23,50,030	2,53,84,100	2,09,347	30,406	—1,77,881	2,35,02,514	L.G. No. 327 W.I., dated 14-1-17 = Rs 5,286 (b)
CONTRIBUTION								
DIRECT CHARGES—								
Works	93,60,026	4,43,782	95,12,407	1,309	1,407	3,095	98,14,110	
Establishment	32,60,601	1,01,110	33,67,711	2,680	602	—1,787	33,70,301	
Tools and Plant	11,96,996	45,712	12,01,002	—214	56	271	12,01,778	
Suspended Balance	..	..	..	..	..	..	..	
Total	1,38,31,600	5,50,001	1,43,82,213	3,081	5,266	1,581	1,43,86,406	
Less Receipts on Capital Account.	88,603	16	68,608	..	..	..	88,606	
Net Total	1,37,44,016	5,50,580	1,43,13,605	3,074	5,266	1,581	1,43,17,280	
GRAND TOTAL	1,37,03,010	5,50,580	1,43,13,605	3,581	5,266	1,581	1,43,17,280	

## OFFICE OF ACCOUNTANT-GENERAL

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Lower Chenab Canal Project.

## No 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT	DIRECT CHARGES.			Cost of construction as now estimated Construction Estimate closed on 31st March 1900.	Expenditure against closed Estimate.		
	Imperial.						
	Previous.	1916-17	Total				
	Rs.	Rs.	Rs.	Rs.	Rs.		
<b>1.—WORKS—</b>							
<b>1.—HEAD WORKS—</b>							
<i>A</i> —Preliminary Expenses	5,710	..	5,710				
<i>B</i> .—Land	64,105	..	64,105				
<i>C</i> .—Works	50,47,622	3,06,244	53,53,866				
<i>K</i> —Buildings	1,01,428	—2,527	7,901				
<i>O</i> —Miscellaneous	6,084	..	6,084				
<i>P</i> —Maintenance	1,68,784	..	1,68,784				
Total	53,03,733	3 02,717	56,06,450				
<b>2.—MAIN CANAL AND BRANCHES—</b>							
<i>A</i> —Preliminary Expenses	1,26,369	..	1,26,369				
<i>B</i> .—Land	2,15,279	..	2,15,279				
<i>D</i> —Regulators	10,84,410	17,666	11,02,116				
<i>E</i> .—Falls and Weirs	6,18,284	..	6,18,284				
<i>F</i> . (!).—Other Cross Drainage Works	6,87,002	..	6,87,002				
<i>G</i> .—Bridges	10,00,607	..	10,00,607				
<i>H</i> .—Escapes	5,42,313	..	5,42,313				
<i>J</i> .—Mills	73,020	..	73,020				
<i>K</i> .—Buildings	17,04,404	1,678	17,05,082				
<i>L</i> .—Earthwork	75,23,756	8,765	76,26,511				
<i>M</i> .—Plantations	1,39,734	..	1,39,734				
<i>O</i> —Miscellaneous	4,34,841	—32,417	4,02,424				
<i>P</i> —Maintenance	1,05,047	..	1,05,047				
Total	1,43,14,105	—9,318	1,43,04,787				
<b>—DISTRIBUTARIUS—</b>							
<i>A</i> —Preliminary Expenses	1,34,668	3,912	1,38,580				
<i>B</i> .—Land	1,17,858	125	1,22,993				
<i>C</i> .—Works	17,76,831	63,076	18,40,507				
<i>L</i> .—Earthwork	26,65,826	43	27,14,804				
<i>O</i> —Miscellaneous	4,76,921	2,920	4,79,141				
<i>P</i> —Maintenance	34,70	..	34,70				
Total	52,06,083	1,24,615	53,30,598				

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Chenab, Canal Project.

N. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March 1900).	Expenditure against closed Estimates.		
	Imperial.						
	Previous.	1916-17	Total.				
<b>4. DRAINAGE AND PROTECTIVE WORKS—</b>							
<i>A.—Preliminary Exposures</i>	..	..	..	10,771	..		
<i>B.—Land</i>	..	..	..	21,602	..		
<i>C.—Works</i>	..	..	..	38,271	9,175		
<i>L.—Earthwork</i>	..	..	..	1,75,836	1,850		
<i>O.—Miscellaneous</i>	..	..	..	37,413	137		
<i>P.—Maintenance</i>	..	..	..	1,162	..		
	<b>TOTAL</b>	..	2,97,105	12,102	3,00,207		
	<b>TOTAL I.—WORKS</b>	..	2,52,11,026	4,3,476	2,56,41,102		
<b>II.—ESTABLISHMENT.</b>							
<b>5. DIRECTION</b>	..	..	..	12,51,323	16,827		
<b>6. EXECUTIVE</b>	..	..	..	24,39,307	70,437		
<b>7. MEDICAL</b>	..	..	..	62,176	..		
<b>8. SPECIAL SURVEY</b>	..	..	..				
<b>8½. SPECIAL FIELD SURVEY</b>	..	..	..				
<b>LEAVE AND PENSION ALLOWANCES</b>	..	..	..				
	<b>TOTAL</b>	..	47,27,007	87,261	48,14,271		
	<b>III.—TOOLS AND PLANT.</b>						
<b>9. NAVIGATION PLANT</b>	..	..	..				
<b>10. MILL PLANT</b>	..	..	..				
<b>11. RAILWAY PLANT AND ROLLING-STOCK</b>	..	..	16,000	..	16,000		
<b>12. MISCELLANEOUS</b>	..	..	5,16,976	6,216	5,22,191		
<b>13. REPAIRS AND CARRIAGE</b>	..	..	1,02,326	..	1,02,326		
<b>LOSS BY EXCHANGE</b>	..	..	..				
	<b>TOTAL</b>	..	6,33,304	1,216	6,30,510		
	<b>IV.—SUSPENSE ACCOUNT.</b>						
<b>14. STOCK</b>	..	..	..	6,03,678	-10,452		
<b>15. STOCK PURCHASES</b>	..	..	..	-34,736	20,058		
<b>15½. STOCK SALES</b>	..	..	..	3,845	-3,775		
<b>16. MISCELLANEOUS ADVANCES</b>	..	..	..	3,324	7,634		
<b>17. LONDON INVOICES</b>	..	..	..				
<b>18. LONDON STOCKS</b>	..	..	..				
	<b>TOTAL</b>	..	4,75,905	22,466	4,96,481		
	<b>GRAND TOTAL</b>	..	3,10,47,302	5,46,021	3,15,03,323		
<b>V.—LESS RECEIPTS ON CAPITAL ACCOUNT.</b>							
<b>NET TOTAL</b>	..		14,403	..	14,403		
<b>APPORTIONMENT.</b>							
<b>40. IRRIGATION WORKS</b>	..	..	3,10,16,189	5,46,021	3,15,61,510		
<b>43. M. W. AND NAVIGATION, IMPERIAL</b>	..	..	11,410	..	11,410		

(a). Excludes share of accounts commencing from 1912-13.

## IRRIGATION BRANCH.

## PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL  
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Lower Chenab Canal Project

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
Occupiers' rates	Rs. 12,20,04,017	Rs. 86,03,040	Rs. 13,15,67,053	I.A.—EXTENSIONS AND IMPROVEMENTS	Rs.	Rs.	Rs.
Owners' rates on irrigated land.	58,13,525		58,13,525	1.—HEAD WORKS	14,36,476	2,36,716	17,23,192
Sales of water	2,60,405	20,342	2,80,747	2.—MAIN CANAL AND BRANCHES	12,12,420	4,093	12,57,122
Supply of Towns	13,477	5,050	18,527	3.—DISTRIBUTARIES	13,22,566	2,16,506	15,41,132
Receipts from plantations	1,63,722	16,070	1,80,792	4.—DRAINAGE AND PROTECTIVE WORKS	1,26,272	20,138	1,46,410
Receipts from other Canal produce.	81,938	180	81,938	TOTAL I. A.	41,10,743	6,20,112	40,75,856
Water power	1,65,617	13,319	2,78,936	I.B.—MAINTENANCE AND REPAIRS			
Rent of Buildings	2,04,701	12,526	2,21,227	1.—HEAD WORKS	17,67,317	1,10,216	19,08,032
Fines	31,914	1,701	33,615	2.—MAIN CANAL AND BRANCHES	64,43,716	4,82,110	69,25,828
Miscellaneous and other Receipts.	4,40,781	15,704	4,56,485	3.—DISTRIBUTARIES	13,95,759	2,59,659	16,55,418
Total	1,01,70,535	67,64,417	13,10,32,952	4.—DRAINAGE WORKS	66,470	21,131	80,604
Share of Land Revenue collected in the Civil Department.	3,60,32,341	1,62,711	3,61,95,052	TOTAL I. B.	1,47,03,294	6,70,646	1,53,70,942
Interest on sale-proceeds of waste land, benefited.	10,68,561	9,05,244	20,00,805	I.C.—COMPENSATION	1,05,956	2,100	1,08,976
Total	3,70,11,192	50,68,027	5,21,69,109	II.—ESTABLISHMENT			
TOTAL RECEIPTS	17,57,11,627	1,88,30,143	19,20,42,071	1.—DIRECTOR AND ACCOUNT	12,17,207	61,021	12,58,228
				2.—EXECUTIVE ESTABLISHMENT	60,72,653	5,03,676	61,76,329
				3.—MEDICAL ESTABLISHMENT	3,56,687	121,448	3,60,216
				4.—RELIGIOUS ESTABLISHMENT	50,84,150	6,13,612	56,93,068
				TOTAL	1,63,41,317	11,07,722	1,74,49,045
				III.—TOOLS AND PLANT			
				1.—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIAL	1,002	513	2,475
				2.—PLANT AND MACHINERY	2,300	15,644	15,043
				3.—TOOLS	5,756	7,893	13,648
				4.—NAVIGATION PLANT	613	317	1,030
				5.—CAMP EQUIPAGE	1,000	474	2,374
				6.—LIVE STOCK	114	230	399
				TOTAL	2,008	2,309	4,427
				IV.—MISCELLANEOUS	4,60,131	—1,071	4,61,360
				5.—REPAIRS AND CARETAU	2,20,416	12,107	2,61,613
				6.—MILITARY PLANT	5,809	..	5,809
				7.—RAILWAY PLANT AND ROLLING STOCK	24,070	..	24,070
				TOTAL	7,70,160	48,107	8,18,369
				IV.—Refund of Revenue	1,07,751	341	1,10,095
				TOTAL	3,01,85,273	25,07,018	3,26,60,992
				Indirect charges debitable to Revenue Account as per Account No 5	2,91,012	1,5,410	21,16,118
				General Chars.	3,47,70,236	27,20,123	4,11,66,110
				Balance, Net Revenue	13,67,05,311.41	10,32	15,083,366
				GRAND TOTAL	17,57,11,627	1,68,30,411	19,20,42,671

(a) Excludes share of accounts commencing from 1912-13.

(b) Includes Rs. 2,61,752 on account of Lambardari fee for collection of Revenue.

## IRRIGATION BRANCH.

## OFFICE OF ACCOUNTANT-GENERAL.

## PUNJAB PROVINCE

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Lower Chenab Canal Project.

## No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1916-16	2,26,74,061	Net Revenue realized to end of 1916-16	13,07,35,841
Do. for the year 1916-17		Do. during 1916-17	1,41,10,820
Total outlay to end of 31st March 1917 = 3,15,78,820			
Less half the outlay during 1916-17 = 2,73,011			
Mean capital of charge = 3,13,05,900			
Interest at 3.2964 per cent.	10,31,068		
Total	2,37,00,010		
Balance Revenue after defraying Interest charges	12,71,30,012		
Total	16,08,45,601	Total	16,08,45,601

## No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

	Particulars.	Previous.	1916-17	Total.
		Rs.	Rs.	Rs.
<b>CAPITAL—</b>				
Capitalization of abatement of Land Revenue	..	1,02,210	..	1,02,210
Leave and Pension Allowances ..	..	6,01,602	12,217	6,73,870
Total	..	7,03,891	12,217	7,70,108
<b>REVENUE—</b>				
Capitalization of abatement of Land Revenue	..	3,226	25	3,250
Leave and Pension Allowances ..	..	22,87,787	1,55,051	24,42,838
Total	..	22,91,012	1,55,108	24,40,118

## No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGES AGAINST CLOSED SANCTION		CURRENT SANCTION			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate.	Expenditure against open canon sanctions.	Total	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.	
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
<b>DIRECT CHARGES—</b>							
Works ..	1,69,23,802	10,40,856	2,16,70,000	19,71,042	11,77,098	8,00,044	2,00,41,102
Establishment ..	20,10,000	9,39,001	10,29,967	1,10,301	2,74,846	84,581	18,14,271
Tools and Plant ..	5,01,625	17,000	6,10,125	—600	87,240	87,541	1,2001
Suspense Balances ..	..	..	..	4,98,431	..	—4,98,131	4,98,431
Total ..	2,41,60,000	16,78,556	2,16,34,142	17,50,171	20,39,211	2,80,010	3,15,03,325
Less Receipts on Capital Account.	14,403		11,403	..	..	14,103	
Not Total ..	2,41,41,600	16,78,556	2,16,34,142	17,50,171	20,39,211	2,80,010	3,15,78,020
<b>INDIRECT CHARGES—</b>							
Capitalized abatement of Land Revenue.	2,000	0,810	1,01,800	350	..	—350	1,02,210
Leave and Pension Allowances.	5,03,900	1,37,746	6,47,236	20,613	..	—20,613	6,73,870
TOTAL ..	6,01,900	1,47,556	7,55,103	20,963	..	—20,963	7,70,068
<b>GRAND TOTAL ..</b>	2,17,13,236	58,26,011	3,05,03,861	17,86,103	20,39,211	2,53,017	3,23,65,018
							Total .. 20,39,211

IRRIGATION BRANCH.

PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Upper Sutlej Inundation Canal Project.

No. (2)—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated (Co-struction Estimate closed on 31st March)	Expenditure against closed Estimate.		
	Imperial.						
	Previous	1916-17.	Total.				
I.—WORKS.	Rs.	Rs.	Rs.	Rs.	Rs.		
2. MAIN CANAL AND BRANCHES—							
A.—Preliminary Expenses	..	..	3,849	..	3,849		
B.—Land	..	..	43,848	..	43,848		
C.—Regulators	..	..	30,612	..	30,512		
E.—Falls and Weirs	..	..	60,015	..	60,015		
G.—Bridges	..	..	62,402	..	62,402		
K.—Buildings	..	..	2,20,302	581	2,20,683		
L.—Earthwork	..	..	5,62,555	..	5,62,555		
O.—Miscellaneous	..	..	5,112	..	5,112		
P.—Maintenance	..	..	2,457	..	2,457		
TOTAL	..	9,80,142	581	9,80,723			
2. DISTRIBUTORIES—							
A.—Preliminary Expenses	..	..	3,812	..	3,812		
B.—Land	..	..	45,782	..	45,782		
C.—Works	..	..	82,930	..	82,930		
L.—Earthwork	..	..	2,35,365	..	2,35,365		
O.—Miscellaneous	..	..	22,941	..	22,941		
P.—Maintenance	..	..	.. 4,652	..	4,652		
TOTAL	..	3,95,612	..	3,95,612			
TOTAL I.—WORKS	..	13,75,854	581	13,76,235	13,76,235		
II.—ESTABLISHMENT.							
5. DIRECTION	..	..	(a) 54,888	21	54,900		
6. EXECUTIVE	..	..	2,37,272	78	2,37,370		
7. MEDICAL	..	..	2,953	..	2,953		
TOTAL	..	2,05,113	99	2,05,212	2,05,212		
III.—TOOLS AND PLANT.							
12. MISCELLANEOUS	..	..	24,566	..			
13. REPAIRS AND CARRIAGE	..	..	114	7	24,573		
TOTAL	..	24,680	7	24,687	24,687		
IV.—SUSPENSE ACCOUNT.							
14. STOCK	..	..	21,982	680	22,662		
15. STOCK SALES	..	..	1	2	3		
16. MISCELLANEOUS ADVANCES	..	..	80	82	162		
TOTAL	..	22,063	761	22,827			
GRAND TOTAL	..	17,17,510	1,461	17,18,901	16,96,134		
V.—LESS RECEIPTS ON CAPITAL ACCOUNT							
166	..	..	166	166	166		
NET TOTAL	..	17,17,354	1,461	17,18,805	16,96,978		
APPORTIONMENT.							
48. IRRIGATION WORKS	..	9,27,447	1,451	9,28,808			
43. M. W. AND NAVIGATION, PROVINCIAL	..	7,80,907	..	7,80,907			

(a). Share of accounts excluded from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Sutlej Inundation Canal Project.

No. 3-REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17	Total.		Previous.	1916-17	Total
Occupiers' rate	Rs. 84,15,112	Rs. 5,78,069	Rs. 87,93,181	1. A.—EXTENSIONS AND IMPROVEMENTS.	Rs. 4,20,553	Rs. 4,408	Rs. 4,24,961
Owners' rates on irrigated land.	17,732	..	17,732	2. MAIN CANAL AND BRANCHES.	1,74,482	8,620	1,83,052
Sales of water	3,038	70	3,108	3.—DISTRIBUTARIES	1,158	..	1,158
Receipts from Plantations	1,24,716	5,078	1,29,794	4.—DRAINAGE AND PROTECTIVE WORKS.	5,06,143	13,928	6,10,071
Receipts from other Canal produce.	76,480	312	76,802	TOTAL 1. A.	..	..	..
Rent of Buildings	3,689	1,264	4,953	1. B.—MAINTENANCE AND REPAIRS.	10,370	..	10,370
Fines	2,25,085	60	2,25,145	2.—HEAD WORKS	17,08,503	2,09,214	19,77,807
Miscellaneous and other Receipts.	23,436	8,163	31,608	3.—MAIN CANAL AND BRANCHES.	8,79,220	48,290	9,27,510
Contribution	22,437	..	22,437	3.—DISTRIBUTARIES	56,68,201	2,57,604	59,16,705
Total	Rs. 90,12,022	Rs. 3,93,036	Rs. 93,05,058	TOTAL 1. B.	..	..	..
Share of Land Revenue collected in the Civil Department.	74,81,006	2,10,500	77,01,500	1. C.—COMPENSATION	8,685	..	8,685
Interest on ex-lo-proceeds of waste lands benefited.	84,032	5,068	89,700	1. D.—ESTABLISHMENT.	..	..	..
Total	Rs. 75,78,638	Rs. 2,16,006	Rs. 77,04,600	2.—DIRECTION AND AG-COMT.	(a) 8,93,341	12,708	7,68,139
TOTAL RECEIPTS	Rs. 1,04,01,560	Rs. 6,00,004	Rs. 1,07,00,564	3.—EXECUTIVE ESTABLISHMENT.	22,08,702	76,213	22,84,975
				4.—MEDICAL DO.	39,030	1,606	40,846
				5.—REVENUE DO.	13,22,400	6150,806	13,78,272
				TOTAL	42,65,600	1,47,823	44,13,231
				6.—LIVE STOCK	..	..	..
				7.—OFFICE FURNITURE	694	—47	647
				8.—RIFTERS AND CARRIAGE	25,740	1,000	26,800
				TOTAL	74,562	1,076	76,338
				9.—REFUNDS OF REVENUE, V PROFIT AND LOSS	25,504	210	25,504
				TOTAL	370	..	370
				TOTAL	1,00,29,802	4,20,911	1,10,50,243
				Indirect charges debitable to Revenue Account as per Account No 5.	6,04,300	20,667	6,80,007
				TOTAL CHARGES	1,17,96,002	4,31,606	1,17,27,210
				Balances, Net Revenue	51,07,958	1,67,396	53,03,354
				GRAND TOTAL	1,04,01,560	6,00,004	1,07,00,564

(a). Share of accounts excluded from 1912-13.

(b). Includes Rs. 10,285 on account of fees for collection of Revenue.

#### IRRIGATION BRANCH.

## PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Upper Sutlej Inundation Project

**No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17**

	Amount.		Amount.		
Total Interest charges to end of 1915-16	Rs. 21,05,531	Net Revenue realized to end of 1915-16	Rs. 51,05,966		
Do. for the year 1916-17	..	Do	..		
Total outlay to 31st March 1917 = Rs. 17,18,805.	..	..	..		
Less, half outlay during 1916-17	726.		1,87,396		
Mean capital at charge	17,18,079.				
Interest at 3.2964 per cent	.. ..	56,634			
Total Interest charges	..	22,23,165			
Balance Revenue after defraining Interest charges		31,40,180			
Total	..	83,63,384	Total	..	53,03,386

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1918-17

Particulars						Previous.	1916-17.	Total.
<b>CAPITAL—</b>						Rs.	Rs.	Rs.
Capitalisation of abatement of Land Revenue	..	..	..	..	..	58,032	..	58,032
Leave and Pension Allowances	..	..	..	..	..	42,094	14	43,008
				Total	..	1,01,027	14	1,01,011
<b>REVENUE—</b>								
Capitalisation abatement of Land Revenue	..	..	..	..	..	10,648	..	10,648
Leave and Pension Allowances	..	..	..	..	..	6,55,052	20,067	6,75,319
				Total	..	6,66,300	20,087	6,66,967

**NO. 6—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE**

PARTICULARS.	CHARGES AGAINST CLOSING SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.
	Expenditure against Construction Estimate	Expenditure against open canal sanctions	Total	Charges to date.	Amount of Functioned Estimate.	Unspent Balance of Estimate.	
<b>DIRECT CHARGES—</b>							
Works	... ... ..	10,07,701	3,68,474	13,76,235	...	...	—
Establishment	... ..	2,34,759	70,453	2,05,212	...	...	2,05,212
Tools and Plant	... ..	20,068	4,610	24,687	...	...	24,687
Suspense Balance	..	...	...	22,827	...	—22,827	22,827
<b>Total</b>	...	12,52,585	4,43,516	16,96,131	22,827	...	17,14,001
<i>Less Receipts on Capital Account</i>		156	..	156	...	...	156
<b>Net Total</b>	..	12,52,431	4,43,516	16,95,975	22,827	...	17,13,805
<b>INDIRECT CHARGES—</b>							
Capitalized abatement of Land Revenues.		53,051	4,353	58,033	...	...	58,033
Leave and Pension Allowances ..		33,148	9,860	43,008	...	...	43,008
<b>Total</b>	..	86,920	84,212	1,01,041	...	...	1,01,041
<b>GRAND TOTAL</b>	...	13,39,561	4,57,295	17,97,019	22,827	...	18,10,866

## IRRIGATION BRANCH.

PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Siddhahi Canal Project.

## No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEAD OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as per estimated (Construction Estimate closed on 31st March 1892.)	Expenditure against closed Estimates		
	Imperial.						
	Previous.	1916-17.	Total				
	Rs.	Rs.	Rs.	Rs.	Rs.		
<b>I.—WORKS.</b>							
<b>Head Works—</b>							
A.—Preliminary Expenses	...	..	754	...	754		
B.—Land	..	..	236	..	236		
C.—Works	..	..	2,46,260	..	2,46,260		
K.—Buildings	..	..	11,646	..	11,646		
O.—Miscellaneous	..	..	391	..	391		
<b>Total</b>	..	2,50,286	..	2,50,286			
<b>2.—MAIN CANAL AND BRANCHES—</b>							
A.—Preliminary Expenses	...	..	4,014	..	4,014		
B.—Land	..	..	22,422	..	22,422		
D.—Regulators	..	..	40,568	..	40,568		
G.—Bridges	..	..	44,980	..	44,980		
K.—Buildings	..	..	80,789	..	80,789		
L.—Earthwork	..	..	2,58,996	..	2,58,996		
M.—Plantations	..	..	821	..	821		
O.—Miscellaneous	..	..	427	..	427		
P.—Maintenance	..	..	5,394	..	5,394		
<b>TOTAL</b>	..	4,07,411	..	4,07,411			
<b>3. DISTRIBUTION—</b>							
A.—Preliminary Expenses	...	..	3,905	..	3,905		
B.—Land	..	..	11,388	..	11,387		
C.—Works	..	..	66,622	..	66,622		
L.—Earthwork	..	..	1,36,784	..	1,36,784		
O.—Miscellaneous	..	..	165	..	165		
<b>TOTAL</b>	..	2,18,923	..	2,18,923			

OFFICE OF ACCOUNTANT-GENERAL.  
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Sidhnai Canal Project.

## No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEAD OF ACCOUNT	DIRECT CHARGES			Cost of construction as now estimated (Construction Estimate closed on 31st March 1892.)	Expenditure against closed Estimates.		
	Imperial.						
	Previous	1916-17.	Total				
	Rs.	Rs.	Rs.	Rs.	Rs.		
<b>4. DRAINAGE AND PROTECTIVE WORKS—</b>							
<i>A.—Preliminary Expenses</i>	..	..	36	..	..		
TOTAL	..	..	36	..	..		
TOTAL I.—WORKS	9,45,656	..	9,45,656	9,45,656	9,45,656		
<b>11.—ESTABLISHMENT.</b>							
<i>5. DIRECTION</i>	..	..	49,445	57	49,502		
<i>6. EXECUTIVE</i>	..	..	2,14,741	..	2,14,741		
<i>7. MEDICAL</i>	..	..	..	..	..		
TOTAL	..	..	2,66,186	67	2,66,253		
<b>13.—TOOLS AND PLANT</b>							
<i>12. MISCELLANEOUS</i>	..	..	35,039	..	35,039		
<i>13. REPAIRS AND CARRIAGE</i>	..	..	..	..	..		
TOTAL	..	..	35,039	..	35,039		
<b>IV.—SUSPENSE ACCOUNT</b>							
<i>14. STOCK PURCHASE</i>	..	..	102	-1,104	-1,010		
<i>15a. STOCK SALES</i>	..	..	35	600	725		
<i>16. MISCELLANEOUS ADVANCES</i>	..	..	150	676	861		
<i>17. STOCK</i>	..	..	42,763	4,207	47,176		
TOTAL	..	..	43,047	4,451	47,051		
<b>GRAND TOTAL</b>	12,90,764	..	12,95,459	12,47,038	12,47,038		
<b>V.—LESS RECEIPTS ON CAPITAL ACCOUNT</b>	224	..	214	24	224		
<i>New Total</i>	12,90,744	..	12,95,261	12,47,014	12,47,014		
<b>APPORIONMENT.</b>							
<i>49.—IRRIGATION WORKS</i>	..	..	12,72,133	4,521	12,76,650		
<i>43.—M. W. AND NAVIGATION</i>	IMPERIAL PROVINCIAL	..	18,300	..	18,300		

(a). Excluding share of accounts commencing from 1st-13.

## IRRIGATION BRANCH.

## PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Sidhu Canal Project.

## No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.			
	Previous	1916-17	Total		Previous	1916-17	Total	
					Rs.	Rs.	Rs.	
Occupiers' rates	90,30,604	4,54,104	94,84,708	I.—EXTENSIONS AND IMPROVEMENTS	Rs.	Rs.	Rs.	
				1.—HEAD WORKS	29,480	1,870	31,350	
				2.—MAIN CANAL AND BRANCHES	1,72,502	4,021	1,76,523	
				3.—DISTRIBUTARIES	76,711	5,100	80,811	
Sales of water	42,631	2,157	44,788	4.—DRAINAGE AND PROSPECTIVE WORKS	508	...	508	
				TOTAL I A	2,78,181	11,000	2,89,181	
Receipts from Plantations	6,726	237	6,963	I.B.—MAINTENANCE AND REPAIRS				
				1.—HEAD WORKS	3,31,308	0,413	3,40,721	
				2.—MAIN CANAL AND BRANCHES	8,08,268	24,382	8,32,650	
Receipts from other Canal produce.	8,780	251	8,981	3.—DISTRIBUTARIES	6,18,511	10,578	6,29,089	
				TOTAL I B	17,48,087	51,373	18,02,460	
Rent of Buildings	18,783	212	18,997	I C.—COMPENSATION	231	..	231	
				II.—ESTABLISHMENT				
				5.—DIRECTOR AND ACCOUNT	(a) 1,45,477	4,831	1,50,308	
Fines	7,221	345	7,566	6.—EXECUTIVE ESTABLISHMENT	7,50,650	30,376	8,20,067	
				7.—MEDICAL ESTABLISHMENT	17,107	1,742	19,149	
				8.—REVENUE ESTABLISHMENT	6,00,737	33,117	6,33,850	
Miscellaneous and other Receipts	13,620	1,957	15,577	TOTAL	16,50,210	70,004	16,20,274	
				III.—TOOLS AND PLANT				
				1.—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS	298	280	584	
				2.—PLANT AND MACHINERY	218	73	291	
Total	91,27,406	4,54,770	95,80,876	3.—TOOLS	...	120	120	
				4.—NAVIGATION PLANT	101	373	1,036	
Share of Land Revenue collected in the Civil Department.	16,16,175	1,10,461	17,26,636	5.—CIVIL EQUIPMENT	...	221	221	
				6.—LIVESTOCK	...	...	...	
				7.—OFFICE FURNITURE	280	188	468	
				8.—TRAILERS AND CARRIAGE	40,102	2,637	32,880	
				12.—MISCELLANEOUS	21,844	—500	21,344	
				TOTAL	63,263	3,500	66,763	
Interest on sale-proceeds of waste lands bequeathed	3,21,761	20,863	3,42,624	IV.—REFUNDS OF REVENUE	1,500	374	1,874	
				TOTAL	30,31,668	1,48,817	37,70,885	
				Indirect Charges debitable to Revenue Account as per Account No. 5.	2,17,314	11,060	2,28,383	
Total	19,40,230	1,31,344	20,71,574	TOTAL CHARGES	36,48,882	1,50,386	40,09,268	
TOTAL RECEIPTS	1,10,67,730	5,00,121	1,15,57,851	Balance, Not Revenue	72,18,863	1,30,737	70,49,600	
				GRAND TOTAL	1,10,67,728	5,00,124	1,16,67,855	

(a). Share of Account excluded from 1912-13.

(b). Includes Rs 5,440 on account of fees for collection of Revenue.

## IRRIGATION BRANCH.

## PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Sidhnai Canal Project.

## No 4—INTEREST ACCOUNT FOR AND TO END OF 1916-17

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1915-16	12,85,333	Net Revenue realized to end of 1915-16	72,18,853
Do for the year 1916-17	..	Do during 1916-17	4,30,737
Total outlay up to 31st March 1917	Rs. 12,85,200		
Less half outlay during 1916-17	2,200		
Mean Capital at charge	12,83,000		
Interest at 3.2964 per cent	42,023		
<b>Total</b>	<b>13,27,023</b>		
<b>Balance Revenue after defraining Interest charges</b>	<b>63,21,634</b>		
<b>Total</b>	<b>76,49,500</b>	<b>Total</b>	<b>76,49,500</b>

## No 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

	PARTICULARS.				Previous	1916-17.	Total
					Rs.	Rs	Rs
<b>CAPITAL—</b>							
Capitalization of abatement of Land Revenue	..	..	..	..	3,328	..	3,328
Leave and Pension Allowances	..	..	..	..	36,899	8	36,807
				<b>Total</b>	<b>40,217</b>	<b>8</b>	<b>40,225</b>
<b>REVENUE—</b>							
Capitalization of abatement of Land Revenue	..	..	..	..	285	..	285
Leave and Pension Allowances	..	..	..	..	2,17,029	11,069	2,28,098
				<b>Total</b>	<b>2,17,314</b>	<b>11,069</b>	<b>2,28,383</b>
				<b>GRAND TOTAL</b>	<b>2,57,531</b>	<b>11,077</b>	<b>2,68,608</b>

## No 6—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS	CHARGES AGAINST CLOSED SANCTIONED			CURRENT SANCTIONED.			Total charges to date against old and current sanctions	REMARKS.
	Expenditure against Construction Estimate	Expenditure against open canal sanctions	Total	Charges to date.	Amount of Sanctioned Estimate	Unspent Balance of Estimate.		
<b>DIRECT CHARGES—</b>								
Works	Rs. 7,91,204	2,44,452	9,45,656	..	..	..	9,45,656	
Establishment	2,04,803	50,140	2,64,243	..	..	..	2,64,243	
Tools and Plant	22,253	15,786	38,039	..	..	..	38,039	
Suspense Balance	..	..	..	47,551	..	47,551	47,551	
<b>TOTAL</b>	<b>9,38,200</b>	<b>3,19,678</b>	<b>12,47,878</b>	<b>47,551</b>	<b>..</b>	<b>47,551</b>	<b>12,95,480</b>	
<b>Less Receipts on Capital Account.</b>	<b>224</b>	<b>..</b>	<b>224</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>224</b>	
<b>NET TOTAL</b>	<b>9,38,036</b>	<b>3,19,678</b>	<b>12,47,714</b>	<b>47,551</b>	<b>..</b>	<b>47,551</b>	<b>12,95,265</b>	
<b>INDIRECT CHARGES—</b>								
Capitalized abatement of Land Revenue—	2,991	334	3,325	..	..	..	3,328	
Leave and Pension Allowances.	28,570	8,321	36,897	..	..	..	36,897	
<b>TOTAL</b>	<b>31,561</b>	<b>8,655</b>	<b>40,225</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>40,225</b>	
<b>GRAND TOTAL</b>	<b>9,59,606</b>	<b>3,28,338</b>	<b>12,87,039</b>	<b>47,551</b>	<b>..</b>	<b>47,551</b>	<b>13,35,490</b>	

IRRIGATION BRANCH. PUNJAB PROVINCE.  
 OFFICE OF ACCOUNTANT-GENERAL,  
 ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.  
 Lower Jhelum Canal Project.

## No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT	DIRECT CHARGES.			Cost of construction as now estimated.	Expenditure against these Estimates.		
	Imperial.						
	Previous.	1916-17.	Total.				
	Rs.	Rs.	Rs.	Rs.	Rs.		
<b>I.—WORKS.</b>							
<b>1.—HEAD WORKS—</b>							
A.—Preliminary Expenses	..	..	12,610	..	12,610		
B.—Land	..	..	31,772	..	31,772		
C.—Works	..	..	20,70,571	—210	20,70,361		
K.—Buildings	..	..	1,38,078	2,111	1,31,980		
O.—Miscellaneous	..	..	10,273	..	10,273		
P.—Maintenance	..	..	28,020	..	28,020		
TOTAL	..	31,91,233	1,901	31,03,134	..		
<b>2.—MAIN CANAL AND BRANCHES—</b>							
A.—Preliminary Expenses	..	..	93,230	203	93,623		
B.—Land	..	..	2,40,781	..	2,40,781		
D.—Regulators	..	..	2,71,236	..	2,71,236		
E.—Falls and Weirs	..	..	2,34,947	..	2,34,947		
F.—(1)—Other Gross Draining Works	..	..	1,20,258	..	1,20,258		
G.—Bridges	..	..	6,91,234	..	6,91,234		
H.—Escapes	..	..	4,78,540	..	4,78,540		
J.—Mills	..	..	1,07,020	..	1,07,620		
K.—Buildings	..	..	10,30,547	7,871	10,38,418		
L.—Earthwork	..	..	22,93,007	..	22,93,007		
M.—Plantations	..	..	86,178	..	86,178		
O.—Miscellaneous	..	..	46,624	833	46,457		
P.—Maintenance	..	..	32,373	..	32,373		
TOTAL	..	57,34,076	8,007	57,43,073	..		
<b>3.—DISTRIBUTARIES—</b>							
A.—Preliminary Expenses	..	..	61,101	..	61,101		
B.—Land	..	..	1,40,700	..	1,40,700		
C.—Works	..	..	15,26,458	9,860	15,36,318		
L.—Earthwork	..	..	13,37,875	1,490	13,39,366		
O.—Miscellaneous	..	..	5,57,711	—7,171	5,57,540		
P.—Maintenance	..	..	4,003	..	4,003		
TOTAL	..	90,35,517	9,170	90,45,000	..		

IRRIGATION BRANCH.

PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Lower Jhelum Canal Project.

## No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated.	Expenditure against closed Estimates.		
	Imperial.		Total.				
	Previous.	1916-17.					
<b>4.—DRAINAGE AND PROTECTIVE WORKS—</b>			Rs.	Rs.	Rs.		
<i>A.—Preliminary Expenses</i>	..	..	21,356	..	21,356		
<i>B.—Land</i>	..	..	13,638	..	13,638		
<i>C.—Works</i>	..	..	2,884	..	2,884		
<i>L.—Earthwork</i>	..	..	52,353	..	52,353		
<i>O.—Miscellaneous</i>	..	..	1,760	..	1,760		
	<b>Total</b>	..	<b>91,990</b>	..	<b>91,990</b>		
	<b>Total L—WORKS.</b>	..	<b>1,20,54,416</b>	<b>20,077</b>	<b>1,20,74,493</b>		
					<b>1,48,95,807</b>		
<b>II.—ESTABLISHMENT.</b>							
<i>5.—DIRECTION</i>	..	..	6,01,514	807	5,02,411		
<i>6.—EXECUTIVE</i>	..	..	15,13,366	3,386	15,10,762		
<i>7.—MEDICAL</i>	..	..	20,613	..	20,633		
<i>8.—SPECIAL SURVEY</i>	..	..	42,062	..	42,062		
	<b>Total</b>	..	<b>21,50,676</b>	<b>4,283</b>	<b>21,00,861</b>		
					<b>29,30,260</b>		
<b>III.—TOOLS AND PLANT.</b>							
<i>9.—NAVIGATION PLANT</i>	..	..	50	..	50		
<i>12.—MISCELLANEOUS</i>	..	..	3,00,011	299	3,00,340		
<i>13.—REPAIRS AND CARRIAGE</i>	..	..	62,506	..	62,506		
	<b>Total</b>	..	<b>3,62,017</b>	<b>299</b>	<b>3,62,056</b>		
					<b>4,29,715</b>		
<b>IV.—SUSPENSE ACCOUNT.</b>							
<i>14.—Stock</i>	..	..	4,12,663	—31,745	3,80,608		
<i>15.—STOCK PURCHASES</i>	..	..	—2,218	—1,423	—3,641		
<i>15a.—Stock Sale</i>	..	..	5	52	57		
<i>16.—MISCELLANEOUS ADVANCES</i>	..	..	3,115	—2,890	525		
<i>18.—LONDON STORES</i>	..	..	..	..	..		
	<b>Total</b>	..	<b>4,19,457</b>	<b>—35,706</b>	<b>3,77,740</b>		
					<b>2,00,000</b>		
	<b>GRAND TOTAL.</b>	..	<b>1,5,17,103</b>	<b>—11,047</b>	<b>1,50,00,056</b>		
					<b>1,84,55,782</b>		
<b>V.—LESS RECEIPTS ON CAPITAL ACCOUNT</b>							
	<b>NET TOTAL</b>	..	<b>40,162</b>	<b>22,147</b>	<b>0,001</b>		
					<b>00,000</b>		
<b>APPORTIONMENT.</b>							
<i>49.—IRRIGATION WORKS</i>	..	..	1,55,76,641	—33,194	1,55,43,447		
					<b>1,83,05,782</b>		

## IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.  
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Lower Jhelum Canal Project.

## Mo. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES	IMPERIAL.		
	Previous.	1916-17	Total		Previous.	1916-17	Total
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ..	2,33,10,687	20,10,110	2,62,20,800	I A.—EXTENSIONS AND IMPROVEMENTS.			
Sales of water ..	96,500	10,082	1,06,582	1.—HEAD WORKS ..	4,40,021	22,933	4,62,954
Supply of towns ..	4,054	1,282	5,336	2.—MAIN CANAL AND BRANCHES ..	1,75,031	7,882	1,82,973
Receipts from Plantations ..	23,850	4,216	31,865	3.—DISTRIBUTARIES ..	2,31,675	24,337	2,55,012
Receipts from other Canal produc- ..	9,115	943	10,058	4.—DRAINAGE AND PRO-TECTIVE WORKS ..	3,987	2,310	6,307
Water power ..	1,56,604	32,977	1,89,481	TOTAL I. A. ..	8,60,718	72,462	9,32,210
Bent of Buildings ..	87,011	6,710	92,721	I B.—MAINTENANCE AND REPAIRS.			
Fines ..	10,674	407	11,320	1.—HEAD WORKS ..	6,20,501	99,351	7,23,922
Miscellaneous and other Receipts ..	1,02,002	8,154	1,11,856	2.—MAIN CANAL AND BRANCHES ..	16,76,106	98,843	10,74,951
Total ..	2,38,00,497	21,74,751	2,67,80,728	3.—DISTRIBUTARIES ..	17,00,354	92,944	17,03,296
Share of Land Revenue collected in the Civil Department ..	78,04,638	16,06,404	95,05,042	4.—DRAINAGE AND PRO-TECTIVE WORKS ..	65,814	3,457	69,321
Interest on sale proceeds of waste lands benefited ..	6,50,460	68,276	7,18,736	TOTAL I. B. ..	42,08,861	2,04,635	45,13,490
Total ..	85,19,099	17,04,063	1,02,83,702	I. C.—COMPENSATION ..	5,847	..	5,847
TOTAL RECEIPTS ..	3,23,25,594	47,18,006	3,70,43,500	II.—ESTABLISHMENT.			
				5.—DIRECTION AND ACCOUNT ..	4,50,780	56,211	(b) 5,07,067
				6.—EXECUTIVE ESTABLISH-MENT ..	10,14,332	2,36,343	21,30,075
				7.—MENAGERE Do ..	1,17,664	12,737	1,30,421
				7A.—REVENUE Do ..	21,77,444	2,05,456	23,82,080
				TOTAL ..	46,60,226	5,01,017	51,61,243
				III.—TOOLS AND PLANT.			
				(1). SCIENTIFIC INSTRU-MENTS AND DRAW-ING MATERIALS ..	1,130	3,194	4,324
				(2). PLANTS AND MACHIN-ERY ..	135	32,714	32,879
				(3). Tools ..	2,121	1,722	3,843
				(4). NAVIGATION PLANTS ..	..	636	626
				(5). CAMP EQUIPMENT ..	45	29	204
				(6). LIVESTOCK ..	70	..	70
				(7). OFFICE FURNITURE ..	1,034	2,177	3,811
				(8). MISCELLANEOUS ..	60,176	—723	65,447
				(9). REPAIRS AND CARRI-AGE ..	89,034	6,864	94,888
				Total ..	1,40,351	45,706	1,86,060
				IV.—REFUNDS OF RE-VENUE ..	8,813	373	10,186
				V.—PROFIT AND LOSS			
				TOTAL ..	31,11,573	6,14,473	37,61,946
				Indirect Charges debitable to Revenue Account as per Account No. 3.			
				0.53,307	70,142	7,33,149	
				TOTAL CHARGES ..	1,05,98,180	9,51,335	1,15,816
				Balance, Net Revenue ..	2,17,27,414	37,61,631	2,54,82,045
				GRAND TOTAL ..	3,23,25,594	17,38,916	3,70,64,560

(a) Includes Rs. 84,894 on account of fees for collection of Revenue.

(b) Excludes Share of accounts commencing from 1912-13.

## IRRIGATION BRANCH.

## PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL  
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Lower Jhelum Canal Project.

## No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1915-16	78,60,703	Not Revenue realised to end of 1915-16	2,17,27,614
Do. for the year 1916-17	..	Do.	37,64,031
Total outlay to end of 31st March 1917	1,65,43,447		
Deduct half outlay during 1916-17	—16,507		
Mean Capital at charge	1,65,60,094		
Interest at 3.2964 per cent	..	5,12,921	
Total	83,63,714		
Balance Revenue after defraining Interest charges	1,71,18,331		
Total	2,54,82,045	Total	2,54,82,045

## No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

PARTICULARS.	Previous.		1916-17.		Total.
	Rs.	Rs.	Rs.	Rs.	
<b>CAPITAL—</b>					
Capitalization of abatement of Land Revenue	..	83,000	..	..	83,000
Leave and Pension Allowances	..	3,06,121	600	3,06,721	
Total	..	3,89,121	600	3,89,721	
<b>REVENUE—</b>					
Capitalization of abatement of Land Revenue	..	875	..	..	875
Leave and Pension Allowances	..	6,52,432	70,142	7,22,574	
Total	..	6,63,307	70,142	7,23,449	
<b>GRAND TOTAL</b>		10,42,428	70,742	11,13,170	

## No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS	CHARGES AGAINST CLOSED SANCTIONS.		CURRENT SANCTIONS			Total charges to date, against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions.	Total	Charges to date	Amount of sanctioned Estimate.	Unspent Balance of Estimate.	
<b>DIRECT CHARGES—</b>				Rs.	Rs.	Rs.	Rs.
Works	..		1,26,74,493	1,48,85,897	22,21,314	1,26,74,493	
Establishment	..		21,00,858	29,30,260	7,39,402	21,00,858	
Tools and Plant	..		2,62,956	4,29,715	66,769	2,62,956	
Surplus Balances	..		3,77,749	2,00,000	—1,77,749	3,77,749	
Total	..		1,56,06,056	1,84,65,782	28,49,726	1,56,06,056	
<b>Less Receipts on Capital Account</b>			62,600	60,000	—2,609	62,600	
Not Total			1,65,43,447	1,83,95,782	28,49,336	1,55,43,447	
<b>IRRIGATION CHARGES—</b>							
Capitalized abatement of Land Revenue.			83,000	1,87,803	74,803	83,000	
Leave and Pension Allowances.			3,06,721	4,10,343	1,03,622	3,06,721	
Total							
			(b)				
			3,89,721	5,08,200	1,78,485	3,89,721	
			(c)				
<b>GRAND TOTAL</b>			1,69,39,166	1,89,63,868	30,30,820	1,59,33,168	

(a). Includes Rs. 2,05,933 actual direct expenditure on Shahpur Imperial Canal.

(b). Includes Rs. 998 on account of indirect expenditure on Shahpur Imperial Canal.

Both the above will be transferred to the debit of this project on completion of the Shahpur Branch of the Lower Jhelum Canal, vide Secretary, P. W. D., Irrigation Branch, Punjab's No. 085-A. 1, dated 7th June 1905.

(c). Revised project estimate sanctioned in Secretary of State's Despatch No. 5, dated 10th February 1905.

## IRRIGATION BRANCH.

## PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17,

## Indus Inundation Canal Project.

## No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT	DIRECT CHARGES,			Cost of construction as now estimated (Construction Estimate closed on 31st March 1894)	Expenditure against closed Estimates.		
	Imperial.						
	Previous	1916-17.	Total				
	Rs.	Rs.	Rs.	Rs.	Rs.		
<b>1.—WORKS.</b>							
<b>2. MAIN CANAL AND BRANCHES—</b>							
<i>A.—Preliminary Expenses</i>	..	..	0,321	..	0,321		
<i>B.—Land</i>	..	..	49,157	4,000	53,157		
<i>D.—Regulators</i>	..	..	77,205	..	77,205		
<i>E.—Falls and Weirs</i>	..	..	34,956	..	34,956		
<i>F.—River and Hill Torrent Works</i>	..	..	402	..	402		
<i>G.—Bridges</i>	..	..	46,971	..	46,971		
<i>H.—Escapes</i>	..	..	14,031	..	14,031		
<i>K.—Buildings</i>	..	..	1,49,097	..	1,49,097		
<i>L.—Earthwork</i>	..	..	13,52,682	..	13,52,682		
<i>O.—Miscellaneous</i>	..	..	24,674	14	24,688		
<b>TOTAL</b>	..	17,58,920	4,020	17,62,940			
<b>3. DISTRIBUTIONS—</b>							
<i>A.—Preliminary Expenses</i>	..	..	3,087	..	3,087		
<i>B.—Land</i>	..	..	38,157	..	38,157		
<i>C.—Works</i>	..	..	64,603	8,103	72,706		
<i>L.—Earthwork</i>	..	..	1,00,310	80	1,00,400		
<i>O.—Miscellaneous</i>	..	..	8,530	..	8,530		
<b>TOTAL</b>	..	305,600	8,252	313,851			

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Indus Inundation Canals Project.

## No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNTS	DIRECT CHARGES			Cost of construction as now estimated (Construction Estimate closed on 31st March 1894).	Expenditure against closed Estimates.		
	Imperial						
	Previous	1916-17.	Total				
4. DRAINAGE AND PROTECTIVE WORKS—	Rs.	Rs.	Rs.	Rs.	Rs.		
K.—Buildings .. .. ..	1,613	..	1,613				
L.—Earthwork .. .. ..	3,13,078	..	3,13,078				
TOTAL .. .. ..	3,14,691	..	3,14,691				
TOTAL I.—WORKS .. .. ..	24,05,710	12,272	24,18,167	22,87,678			
II.—ESTABLISHMENT							
5. DIRECTION AND ACCOUNT .. .. ..	(a) 1,11,726	119	1,11,845				
6. EXECUTIVE .. .. ..	2,46,91	44	2,46,955				
7. MEDICAL .. .. ..	567	..	567				
TOTAL .. .. ..	1,59,184	5	1,59,194	4,60,35	4,75,838		
III.—TOOLS AND PLANT.							
12. MISCELLANEOUS .. .. ..	25,033	30	25,062				
13. REPAIRS AND CARRIAGE .. .. ..							
TOTAL .. .. ..	25,033	30	25,062	25,040	23,421		
IV.—SUSPENSE ACCOUNT.							
14. Stock .. .. ..	14,797	—4131	10,664				
16. MISCELLANEOUS ADVANCES .. .. ..	118	—120	1				
18. LONDON STORES .. .. ..	..						
TOTAL .. .. ..	14,715	—4,200	10,515				
GRAND TOTAL .. .. ..	20,6,976	8,616	20,15,592	20,00,~	27,46,637		
V. LESS RECEIPTS ON CAPITAL ACCOUNT							
NET TOTAL .. .. ..	14,616		14,616	13,816	03,810		
20,03,510	8,616	20,01,976	—5,721	20,52,821			
APPORTIONMENT.							
40. IRRIGATION WORKS .. .. ..	21,70,847	8,616	21,79,463				
43. R. W. AND NAVIGATION, IMPERIAL	7,22,513	..	7,22,513				

(a) Share of account excluded from 1912-13.

## IRRIGATION (BRANCH).

## PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.  
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.  
Indus Inundation Canals Project.  
No. 3-REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL			CHARGES.	IMPERIAL			
	Previous.	1916-17	Total.		Previous.	1916-17	Total.	
					Rs.	Rs.	Rs.	
				(I.A)-EX-PENS- ONS AND IMPROVEMENTS.				
Occupiers' rates	21,00,364	1,02,643	22,03,007	2.-MAIN CANAL AND BRANCHES.	10,22,460	22,532	10,44,082	
				1.-DISTRIBUTORIES ..	60,603	3,351	72,044	
				4.-DRAINAGE AND PRO- TECTIVE WORKS ..	8,92,660	89,437	9,81,323	
Owners' rates on irrigated land.	92,169	..	92,169	TOTAL I. A. ..	10,4,929	1,15,320	21,00,249	
				(I.B)-MAINTENANCE AND REPAIRS.				
Sales of water	5,740	220	6,00	2.-MAIN CANAL AND BRANCHES.	66,10,61	99,360	60,18,011	
				3.-DISTRIBUTORIES ..	2,06,307	17,705	3,14,072	
Supply of towns	1,414	..	1,414	4.-DRAINAGE WORKS ..	10,34,812	20,281	10,35,103	
				TOTAL I. B. ..	7,24,440	1,47,346	70,4,786	
Receipts of plantation	1,26,132	2,327	1,28,459	(I.C)-COMPENSATION ESTABLISHMENT.	6,171	25	6,196	
				1.-DIRECTOR AND ACCOUNT	(a) 6,14,983	12,040	6,27,020	
Govt. share of Dhundh Products.	10,50,787	50,919	11,07,696	3.-EXECUTIVE ESTABLISH- MENT.	24,42,680	84,101	25,26,841	
				7.-MEDICAL ESTABLISH- MENT.	30,722	1,425	32,167	
Rentals from other Canal Products.	4,316	23	4,339	7A.-REVENUE ESTABLISH- MENT.	6,62,511	(b) 27,071	6,89,582	
				7C.-PLANTATION ESTAB- LISHMENT.	5,916	..	5,946	
Rent of Buildings	..			TOTAL ..	39,56,842	1,24,713	40,81,555	
Fines	64,442	2,901	67,343	III-TOOLS AND PLANT				
				1.-SCIENTIFIC INSTRU- MENTS AND DRAW- ING MATERIALS.	61	100	161	
Miscellaneous and other receipts.				2.-PLANS & MACHINERY	..	..	..	
				3.-FOOLS.	210	—6	213	
Total	36,15,634	2,54,800	39,00,434	4.-NAVIGATION PLANT	343	..	343	
				5.-CART EQUIPAGE	211	..	211	
Contribution of Silt Collection	4,14,934	..	4,14,934	6.-LIVESTOCK	..	..	..	
				7.-OFFICE FURNITURE	204	304	600	
Clearance Rate	12,79,035	..	12,79,035	8.-REPAIRS & CARRIAGE	37,100	1,154	38,323	
				9.-MISCELLANEOUS	37,474	—30	37,844	
Total	52,44,103	2,84,609	54,40,012	TOTAL ..	72,171	1,618	73,085	
Share of Land Revenue collected in the Civil Department.	1,01,89,155	2,73,408	1,07,61,663	IV.-REFUNDS OF RE- VENUE.	4,871	..	4,871	
				V.-PROFIT AND LOSS	1,592	..	1,599	
Interest on sale proceeds of waste lands benefited	40	2	42	TOTAL ..	1,39,74,923	3,78,910	1,42,52,033	
				Indirect Charges debitible to Revenue Account as per Account No. 5.	1,58,512	10,080	1,78,597	
Total	1,04,98,105	2,73,500	1,07,61,605	TOTAL CHARGES ..	1,45,32,605	3,08,601	1,48,31,100	
				Balance Net Revenue	11,61,823	1,20,707	13,20,626	
TOTAL RECEIPTS	1,27,32,388	5,28,700	1,62,60,697	GRAND TOTAL ..	1,57,32,388	6,28,300	1,62,60,697	

(a) Share of account excluded from 1912-13.

(b) Includes Rs. 6,707 on account of fees for collection of Revenue.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Indus Inundation Canals Project.

## No. 4.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

	Amount.		Amount.
Total Interest charges to end of 1915-16 .. ..	Rs. 19,40,688	Net Revenue realized to end of 1915-16 ..	Rs. 11,99,823
Total outlay to 31st March 1917 .. ..	Rs. 29,01,978	Do. during 1916-17..	1,29,705
Less half outlay during 1916-17 .. ..	4,308	Balance net Interest charges..	7,06,680
Mean capital at charge .. ..	28,07,663		
Interest at 3.29% per cent .. ..	95,510		
Total .. ..	20,36,208	Total .. ..	20,36,208

## No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.			Previous	1	10-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
<b>CAPITAL—</b>						
Capitalization of abatement of Land Revenue .. ..	..	..	..	8,307	250	8,657
Leave and Pension Allowances .. ..	..	..	..	71,630	79	71,718
			Total .. ..	79,940	420	80,375
<b>REVENUE—</b>						
Capitalization of abatement of Land Revenue .. ..	..	..	..	23,408	2,225	25,633
Leave and Pension Allowances .. ..	..	..	..	6,35,134	17,460	6,52,594
				6,58,542	19,685	6,78,227
			GRAND TOTAL .. ..	7,38,458	20,114	7,58,602

## No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGED AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate	Expenditure against open canal sanctions	Total.	Charges to date.	Amount of Sanctioned Estimate	Unspent Balance of Estimate		
<b>DIRECT CHARGES—</b>								
Works .. ..	Rs. 6,63,648	Rs. 10,24,010	22,87,078	Rs. 1,33,310	Rs. 1,28,708	Rs. —4,601	Rs. 24,20,938	
Establishment .. ..	87,304	3,48,134	4,45,338	23,611	24,017	—10	4,58,940	01359 16-9-15 21,848
Tools and Plant .. ..	67	22,751	23,421	1,071	1,073	+24	24,072	
Suspense Balance .. ..	..	..	..	60,583	..	—6,587	61,583	
	<b>TOTAL</b> .. ..	<b>10,94,010</b>	<b>27,16,337</b>	<b>2,10,165</b>	<b>1,54,101</b>	<b>—61,754</b>	<b>29,66,502</b>	<b>Long</b>
Less Receipts on Capital Account .. ..	63,616	..	63,616	..	..	..	63,616	1,54,401
	<b>NET TOTAL</b> .. ..	<b>6,97,906</b>	<b>18,94,915</b>	<b>20,82,921</b>	<b>2,10,165</b>	<b>1,54,101</b>	<b>29,01,970</b>	
<b>INDIRECT CHARGES—</b>								
Capitalized abatement of Land Revenue.	57	8,600	9,657	..	..	..	8,057	
Leave and Pension Allowances	19,672	48,730	68,411	3,307	..	—3,307	71,718	
	<b>TOTAL</b> .. ..	<b>19,729</b>	<b>57,330</b>	<b>77,067</b>	<b>3,307</b>	<b>—3,307</b>	<b>80,375</b>	
	<b>GRAND TOTAL</b> .. ..	<b>7,07,035</b>	<b>20,12,254</b>	<b>27,59,881</b>	<b>2,22,402</b>	<b>1,54,101</b>	<b>29,01,970</b>	

## IRRIGATION BRANCH.

## PUNJAB PROVINCE

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Upper Chenab Canal Project.

## No 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17

HEADS OF ACCOUNT.	DIRECT CHARGES			Cost of construction as now estimated	
	Imperial				
	Previous	1916-17	Total		
<b>I.—WORKS.</b>					
<b>1. HEAD WORKS—</b>					
<i>A.—Preliminary Expenses</i> .. ..	8,284	..	8,284		
<i>B.—Land</i> .. ..	67,995	59	68,053		
<i>C.—Works</i> .. ..	67,04,510	-5,440	66,99,070		
<i>K.—Buildings</i> .. ..	1,89,587	852	1,90,430		
<i>O.—Miscellaneous</i> .. ..	18,598	13,145	31,743		
<i>P.—Maintenance</i> .. ..	1,35,343	..	1,35,343		
<i>Q.—Losses of Stock</i> .. ..	5,715	1,602	7,317		
	<b>TOTAL</b> ..	<b>71,60,041</b>	<b>10,203</b>	<b>71,60,240</b>	
<b>2. MAIN CANAL AND BRANCHES—</b>					
<i>A.—Preliminary Expenses</i> .. ..	70,233	605	77,038		
<i>B.—Land</i> .. ..	9,08,171	3,018	9,71,789		
<i>D.—Regulators</i> .. ..	6,68,914	10,818	6,89,732		
<i>E.—Falls and Weirs</i> .. ..	8,50,027	..	8,50,027		
<i>F. (1)—Other Gross Drainage Works</i> ..	22,60,422	3,533	22,72,955		
<i>G.—Bridges</i> .. ..	15,71,431	2,773	15,74,204		
<i>K.—Buildings</i> .. ..	8,33,360	15,505	8,48,875		
<i>L.—Earthwork</i> .. ..	69,43,275	5,552	69,48,827		
<i>M.—Plantations</i> .. ..	38,233	3,398	42,631		
<i>O.—Miscellaneous</i> .. ..	68,300	214	68,514		
<i>P.—Maintenance</i> .. ..	3,19,783	894	3,20,677		
<i>Q.—Losses of Stock</i> .. ..	7,511	4,574	11,785		
	<b>TOTAL</b>	<b>1,47,79,960</b>	<b>51,085</b>	<b>1,47,85,054</b>	
<b>3. DISTRIBUTARIES—</b>					
<i>A.—Preliminary Expenses</i> .. ..	1,36,608	5,578	1,42,186		
<i>B.—Land</i> .. ..	54,1,035	80,325	6,22,260		
<i>C.—Works</i> .. ..	13,41,812	1,60,134	15,01,946		
<i>L.—Earthwork</i> .. ..	17,21,316	1,10,192	18,31,508		
<i>O.—Miscellaneous</i> .. ..	2,16,755	50,155	3,05,910		
<i>P.—Maintenance</i> .. ..	14,308	..	14,308		
	<b>TOTAL</b>	<b>39,72,784</b>	<b>4,45,384</b>	<b>44,18,148</b>	

## IRRIGATION BRANCH.

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PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.  
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Upper Chenab Canal Project

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES			Cost of construction as now estimated.	
	Imperial.				
	Previous	1916-17.	Total		
4. DRAINAGE AND PROTECTIVE WORKS—		Rs.	Rs.	Rs.	
A.—Preliminary Expenses	6,174	1,102	7,276		
B.—Land	1,02,116	1,705	1,03,821		
C.—Works	37,481	578	38,059		
D.—Earthwork	9,23,000	1,00,340	10,29,430		
E.—Miscellaneous	17,062	03	17,155		
TOTAL	10,56,941	1,09,313	11,05,741		
TOTAL I.—WORKS	2,60,42,017	6,17,095	2,75,59,192	2,92,05,401	
II.—ESTABLISHMENT.					
5. DIRECTION	10,57,999	31,724	10,89,713		
6. EXECUTIVE	29,06,384	2,11,263	31,77,647		
7. MEDICAL	1,26,478	10,812	1,37,290		
8. SPECIAL SURVEY	62,573	..	62,573		
8½. SPECIAL FIELD SURVEY	110	..	110		
LEAVE AND PENSION ALLOWANCES	..	..	..		
TOTAL	42,31,631	2,63,700	44,87,333	44,81,608	
III. TOOLS AND PLANT.					
1. SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS	272	385	657		
2. PLANT AND MACHINERY	8,635	..	8,635		
3. TOOLS	1,323	917	2,240		
4. NAVIGATION PLANT	606	326	932		
5. CAMP EQUIPAGE	28	7	35		
6. LIVE STOCK	00	474	574		
7. OFFICE FURNITURE	975	685	1,660		
8. REPAIRS AND CARRIAGE	1,21,020	3,974	1,25,894		
II RAILWAY PLANT AND ROLLING STOCK	8,55,370	..	8,55,370		
12 MISCELLANEOUS	9,95,405	4,03,480	11,93,951		
TOTAL	16,84,094	5,05,44	21,90,148	19,02,424	
IV.—SUSPENSE ACCOUNT.					
14. STOCK	8,07,154	—1,22,165	0,85,049		
15. STOCK PURCHASES	—1,387	957	—440		
15½. STOCK SALES	1,205	—1,140	165		
16. MISCELLANEOUS ADVANCES	4,445	—4,30	05		
18. LONDON STORES	..	..	..		
TOTAL	8,11,67	—1,26,668	0,84,919	3,00,060	
GRAND TOTAL	3,36,71,82	12,48,64	3,49,21,02	3,59,49,683	
V.—LESS RECEIPTS ON CAPITAL ACCOUNT	47,310	5,12,746	5,60,666	5,43,100	
NET Total	3,36,24,503	1,37,134	3,44,01,637	3,53,00,583	
APPORTIONMENT.					
49. IRRIGATION WORKS	3,35,16,32	7,37,134	3,42,53,766		
43 M W. AND NAVIGATION	1,07,871	..	1,07,871		

## IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.  
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Upper Chenab Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
Occupiers' rates	22,04,982	22,85,015	44,90,027	(I A)—EXTENSIONS AND IMPROVEMENTS.	Rs.	Rs.	Rs.
				(1) — HEAD WORKS	10,834	22,340	39,174
Sales of water	885	1,182	1,837	(2) — MAIN CANAL AND BRANCHES	2,50,571	1,844	2,52,415
				(3) — DISTRIBUTORIES	...	1,610	1,619
Water supply of towns	1,814	...	1,814	TOTAL I.A	2,07,405	26,803	2,33,208
				(I B)—MAINTENANCE AND REPAIRS.			
Receipts from Plantations	1,350	424	1,774	(1) — HEAD WORKS	1,80,838	46,888	2,27,718
				(2) — MAIN CANAL & BRANCHES	5,07,980	1,91,737	6,08,817
				(3) — DISTRIBUTORIES	3,20,702	2,05,574	5,35,366
Receipts from other Canal products.	511	...	511	(4) — DRAINAGE WORKS	72,088	20,958	93,046
				TOTAL I.B.	10,00,693	4,05,154	15,65,847
				(I C)—COMPENSATION...	37,730	4,500	42,230
Rent of Buildings	17,096	6,102	23,798	(II) — ESTABLISHMENT.			
				(5) — DIRECTION AND ACCOUNT	53,930	30,350	84,280
				(6) — EXECUTIVE ESTABLISHMENT.	2,11,838	80,575	2,02,413
				(7A) — REVENUE DO.	3,79,377	1,84,714	5,64,091
				TOTAL	6,15,145	2,95,629	9,40,784
				(III) — TOOLS AND PLANT.			
Fines	2,660	920	3,580	(1) — SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS.	42	...	42
				(2) — PLANT AND MACHINERY	3,673	—1,61	1,982
				(12) — MISCELLANEOUS	11,870	7,110	18,080
Miscellaneous and other Receipts	41,571	15,390	56,870	(13) — REPAIRS AND CARRIAGE	0,811		6,811
				TOTAL	22,290	5,519	27,815
				(IV) — REFUNDS OF REVENUE.			
				TOTAL	2,075	260	2,344
Total	22,71,208	23,08,047	45,80,215		2,065,863	7,06,944	28,02,297
Interest on sale-proceeds of waste lands bonafited.	68,380	50,630	1,25,620	Indirect Charges debitable to Revenue Accounts per Account No. 6.	—		
					00,320	1,31,909	41,589
Share of land revenue	1,00,850	1,95,233	3,05,083	TOTAL CHARGES	21,55,073	8,38,533	20,94,200
Collected in the Civil Department	2,68,742	2,51,872	5,23,014	Balances, Net Revenue	3,84,337	17,25,286	21,09,623
TOTAL RECEIPTS	25,40,010	26,03,810	51,03,820	GRAND TOTAL	25,40,010	26,03,810	51,03,829

(a) — Includes Rs. 60,537 on account of fees of collection of revenue.

(b) — Excluding Share of Accounts from 1912-13.

## IRRIGATION BRANCH. PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Upper Chenab Canal Project.

## No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
Rs.	Rs.		Rs.
Total Interest charges to end of 1916-17	71,88,668	Net revenue realized to end of 1916-17	3,84,337
Do. for the year 1916-17		Do. during 1916-17	17,23,280
Total outlay to end of 31-3-17	3,43,51,637		
Less half outlay during 1916-17	3,68,507	Balance, net interest charges	61,99,603
Mean Capital at charge	3,30,02,070		
Interest at 3.2964 per cent	11,20,548		
Total	83,00,216	Total	83,00,216

## No. 5. ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

PARTICULARS.	Previous.	1916-17.	Total.
<b>CAPITAL</b>			
Capitalization of abatement of Land Revenue	2,91,725	67,23	3,50,660
Leave and Pension Allowances	5,83,367	35,572	6,20,897
Total	8,77,090	1,03,467	9,80,547
<b>REVENUE</b>			
Capitalization of abatement of Land Revenue	200	200	200
Leave and Pension Allowances	41,380	41,380	1,31,700
Total	41,580	41,580	1,31,900

## No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CENTRAL SANCTION			Total charges to date against old and current sanctions.	REMARKS.
	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.		
<b>DIRECT CHARGES</b>					
Works	2,75,59,192	2,92,05,491	16,46,309	2,75,59,192	
Establishment	44,97,333	44,11,668	—45,665	44,97,333	
Tools and Plant	21,10,116	18,02,421	—2,67,724	21,00,149	
Suspense Balances	6,84,420	3,50,000	—3,84,820	0,81,820	
Total	3,19,21,502	3,65,19,587	9,25,081	3,19,21,502	
Less Receipts on Capital Account	5,69,866	5,13,000	—10,866	5,59,500	
Not Total	3,43,51,637	3,53,06,563	9,11,917	3,43,01,037	
<b>INDIRECT CHARGES</b>					
Capitalized abatement of Land Revenue	5,16,063	1,57,018	3,50,050		
Leave and Pension Allowances	7,08,773	87,576	6,20,897		
Total	12,25,441	2,44,594	0,80,647		
<b>GRAND TOTAL</b>	3,63,42,184	3,63,32,021	11,49,810	3,63,42,184	

(a) —The following transfers of provision have been made.  
 I.—Rs. 8,26,000—transferred from 49—Capital I—Works, Upper Chenab Canal, to 40—Capital I—Works, Upper Jhelum Canal, vide Government of India letter No. 676 I, dated 5th October 1916

II.—Rs. 2,000) Transferred from 19—Capital I—Works to III—Tools and Plant, Upper Chenab Canal Project, vide „ 8,000) Irrigation Branch Secretary's No. 716 W. I., dated 15th February 1916, 0250 W. I., dated 12th „ 3,000) June 1916 and 712 W. I., dated 10th February 1917.

(b) —The transfer of Rs. 1,74,494 from 49—Capital III—Tools and Plant to II—Establishment, Upper Chenab Canal Project as per Secretary's No. 510 W. I., dated 2nd February 1911 was erroneously accounted for against the Revised Estimate, hence set right.

(c) —Vide (a) II above.

## IRRIGATION BRANCH.

## PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Lower Bari Doab Canal Project.

## No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated	Rs.		
	Imperial.						
	Previous.	1910-17.	Total.				
L—WORKS.							
1. HEAD WORKS—							
A.—Preliminary Expenses	..	..	13,800	..	13,800		
B.—Land	..	..	2,22,160	—50	2,22,161		
C.—Works	..	..	45,76,038	1,63,884	47,39,921		
K.—Buildings	..	..	1,33,531	6,163	1,38,741		
O.—Miscellaneous	..	..	21,701	101	21,802		
P.—Maintenance	..	..	78,700	..	78,700		
Q.—Losses on Stock	..	..	..	1,780	1,780		
	TOTAL	..	50,46,172	1,70,006	62,17,077		
2. MAIN CANAL AND BRANCHES—							
A.—Preliminary Expenses	..	..	1,10,598	+ 34,381	1,53,069		
B.—Land	..	..	47,082	—30,300	10,882		
D.—Regulators	..	..	1,27,702	..	1,27,702		
E.—Falls and Weirs	..	..	4,15,553	..	4,15,553		
F.—River and Hill Torrent Works	..	..	671	..	671		
F. (1).—Other Gross Drainage Works	..	..	4,54,145	500	4,55,041		
G.—Bridges	..	..	4,72,780	—2,866	4,70,114		
H.—Escapes	..	..	62,352	620	62,972		
K.—Buildings	..	..	10,11,616	38,874	10,50,610		
L.—Earthwork	..	..	83,85,422	340	83,36,771		
M.—Plantations	..	..	1,15,075	13,117	1,28,792		
O.—Miscellaneous	..	..	70,808	8,110	82,084		
P.—Maintenance	..	..	2,31,718	5,318	2,37,046		
Q.—Losses on Stock	..	..	405	..	405		
	TOTAL	..	64,76,303	63,408	65,38,801		
3. DISTRIBUTARIES—							
A.—Preliminary Expenses	..	..	90,314	5,125	1,01,430		
B.—Land	..	..	1,31,676	—922	1,30,744		
C.—Works	..	..	11,95,810	55,115	12,50,925		
L.—Earthwork	..	..	13,05,114	64,580	14,20,703		
O.—Miscellaneous	..	..	11,60,330	1,05,664	13,26,003		
P.—Maintenance	..	..	32,108	2,078	34,187		
	TOTAL	..	39,77,302	2,94,030	42,72,091		
4. DRAINAGE AND PROTECTIVE WORKS.							
A.—Preliminary	..	..	5,739	1,845	7,584		
B.—Land	..	..	409	0,082	4,491		
C.—Works	..	..	720	..	720		
L.—Earthwork	..	..	8,541	21,241	32,782		
O.—Miscellaneous	..	..	9,050	2,350	11,410		
	TOTAL	..	24,469	34,518	58,987		
	TOTAL L.—WORKS.	..	1,65,23,300	5,03,560	1,60,40,860		
					1,00,86,298		

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Bari Doab Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated.	
	Imperial.				
	Previous.	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	
II.—ESTABLISHMENT.			..	..	
5. DIRECTION AND ACCOUNTS (a)	5,30,562	38,608	5,69,172		
6. EXECUTIVE	20,00,153	2,25,087	23,25,140		
7. MEDICAL	92,578	12,275	1,04,853		
8. SPECIAL SURVEY	7,840	..	7,840		
TOTAL	27,30,133	2,76,870	30,07,003	32,49,734	
III.—TOOLS AND PLANT					
1. SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS.	671	1,123	1,094		
2. PLANT AND MACHINERY	9,734	1,336	11,070		
3. TOOLS	427	1,820	1,747		
4. NAVIGATION PLANT	4,181	403	4,684		
5. CAMP EQUIPMENT	650	760	1,440		
6. LIVE STOCK	..	299	299		
7. OFFICE FURNITURE	2,153	1,646	3,799		
8. REPAIRS AND CARRIAGE	1,03,924	11,709	1,15,633		
9. MISCELLANEOUS	6,07,664	4,03,123	10,10,687		
10. RAILWAY PLANT AND ROLLING STOCK	7,83,454	..	7,83,454		
TOTAL	15,12,098	4,21,770	19,34,768	20,16,908	
IV.—SUSPENSE ACCOUNT.					
14. STOCK	8,63,081	—57,820	8,05,261		
15. STOCK PURCHASES	—2,839	—1,107	—4,036		
16. (a) STOCK SALES	713	—361	352		
16. MISCELLANEOUS ADVANCES	1,616	—1,086	+430		
17. LONDON INVOICES	—1	..	—1		
18. LONDON STORES	..	..	..		
TOTAL	0,62,468	—60,403	0,02,066	3,00,000	
GRAND TOTAL	2,07,28,890	12,01,740	2,19,30,642	2,18,51,940	
V.—Less RECEIPTS ON CAPITAL ACCOUNT	61,032	4,48,497	5,10,360	2,82,000	
N.F. TOTAL	2,06,66,964	7,53,300	2,14,20,273	2,13,69,940	
APPORTIONMENT.					
49.—IRRIGATION WORKS	2,04,09,443	7,53,300	2,12,52,762		
48.—M. W. AND NAVIGATION, IMPERIAL	1,07,521	..	1,07,521		

(a) Excludes share of account from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Bari Doab Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous	1916-17.	Total		Previous	1916-17.	Total
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ...	9,10,136	7,31,730	16,80,886	(I.A)—EXTENSIONS AND IMPROVEMENTS.			
				1.—HEAD WORKS ...	2,137	2,069	4,306
				2.—MAIN CANAL AND BRANCHES ...	2,717	1,471	4,188
				3.—DISTRIBUTARIES ...	7,73	4,821	12,159
				4.—DRAINAGE AND PROTECTIVE WORKS ...	...	...	...
				TOTAL I. A ...	12,102	8,061	21,153
Sales of water ...	1,030	11,410	16,340	(I.B)—MAINTENANCE AND REPAIRS.			
				1.—HEAD WORKS ...	80,717	53,822	1,23,399
				2.—MAIN CANAL AND BRANCHES ...	2,71,260	1,69,228	4,30,508
				3.—DISTRIBUTARIES ...	3,18,207	1,65,077	4,84,274
				4.—DRAINAGE WORKS ...	7,665	819	8,384
				TOTAL I.B. ...	6,80,850	3,50,646	10,16,505
Receipts from Plantations ...	3,591	3,075	6,966	(I.C)—COMPENSATION.			
in other Canal produce	393	...	393	(II)—ESTABLISHMENT			
				1.—DIRECTION AND ACCOUNTS ...	(a) 37,502	20,594	67,096
Rent of buildings ...	1	6,031	6,031	6.—EXECUTIVE ESTABLISHMENT.	1,13,132	60,031	1,73,163
				(7.A)—REFUGEE DO. ...	1,00,881	1,31,810	9,31,700
				TOTAL ...	3,50,516	2,21,414	5,71,930
				III.—TOOLS AND PLANT.			
Fines ...	1,001	407	1,471	1.—SCRIMMAGE INSTRUMENTS AND DRAWING MATERIALS ...	...	...	...
				2.—PLANT AND MACHINERY ...	...	...	...
				3.—TOOLS ...	...	...	...
				4.—NAVIGATION PLANT ...	...	...	...
				5.—CAMP EQUIPMENT ...	...	...	...
				6.—LIVE STOCK ...	...	...	...
Miscellaneous and other	13,320	3,652	16,832	7.—OFFICE FURNITURE ...	...	...	6
				8.—REPAIRS AND CARRIAGE MISCCELLANEOUS ...	...	...	
				TOTAL ...	8,970	5,303	.28 2
				IV.—REFUNDS OF REVENUE	662	237	809
				V.—PROFIT AND LOSS.	...	...	...
				TOTAL ...	10,00,207	5,05,691	16,05,798
				Indirect Charges debit able to Revenue Account as per Account No. 5.	40,072	31,002	80,074
Total ...	9,60,723	7,02,206	17,28,929	TOTAL CHARGES ...	11,09,270	6,26,593	17,32,875
Share of Land Revenue collected in the Civil Department.	...	3	3,818	Balnace, Not Revenue ...	25,558	2,38,537	3,61,095
Interest on sale proceeds of waste land benefited.	1,68,114	1,09	3,07,319	GRAND TOTAL ...	11,3,4637	9,05,130	20,90,967
Total Receipts ...	11,34,637	8,65,130	20,99,967				

(a). Excludes share of accounts since 1912-13.

(b). Includes Rs. 21,105 on account of Lambardars' fees for 1910-17.

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IRRIGATION BRANCH. OFFICE OF ACCOUNTANT-GENERAL. PUNJAB PROVINCE.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Bari Doab Canal Project.

No. 4—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Rs.		Rs.
Total Interest charges to end of 1915-16	32,06,867	Net Revenue realized to end of 1915-16	23,558
Do. for the year 1916-17	Rs.	Do. during 1916-17	8,98,637
Total outlay to 31st March 1917	2,14,20,273	Balance Interest net charges	33,36,554
Less half outlay during 1916-17	3,76,656		
Mean capital at charge	2,10,48,618		
Interest at 3 2/964 per cent	0,93,682		
Total	30,00,639	Total	30,00,639

No. 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

PARTICULARS.	Previous.		1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.
<b>CAPITAL—</b>				
Capitalization of abatement of Land Revenue	..	..	43,750	200
Leave and Pension Allowances	..	..	37,1278	38,762
		Total	41,15,028	38,902
				4,63,990
<b>REVENUE—</b>				
Leave and Pension Allowances	..	..	49,072	31,002
		Total	49,072	31,002
				80,074

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	
<b>DIRECT CHARGES—</b>					
Works .. .. .. ..	1,60,86,860	1,60,86,508	—568	1,60,86,860	Revised estimate sanctioned in Secretary of State's Dispatch No. 5 P. W. dated 17th February 1911.
Establishment .. .. .. ..	30,07,003	32,19,734	2,42,731	30,07,003	Rs. 3,00,000 transferred from I—Works to III—Tools and Plants as per Secretary's Irrigation Branch letter No. 0910 W 1 dated 5th August 1910.
Tools and Plant .. .. .. ..	19,34,767	20,15,908	81,141	19,34,767	
Suspense Balances .. .. .. ..	0,02,070	3,00,000	—6,02,006	9,02,000	
	Total	2,19,30,612	2,16,51,046	—2,78,702	2,19,30,612
<b>Less Receipts on Capital Account</b> .. .. .. ..	5,10,369	2,82,500	—2,28,369	5,10,369	
	Net Total	2,14,20,273	2,13,60,940	—50,333	2,11,20,273
<b>INDIRECT CHARGES—</b>					
Capitalized abatement of Land Revenue .. .. .. ..	43,950	1,47,500	1,03,550	43,950	
Leave and Pension Allowances .. .. .. ..	4,10,040	5,10,662	100,922	4,10,040	
	Total	4,53,990	6,58,412	2,04,472	4,53,990
	GRAND TOTAL	2,18,74,263	2,20,28,402	1,54,130	2,18,74,263

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Jhelum Canal Project.

No. 2—CAPITAL ACCOUNTS FOR AND TO END OF 1916-17.

HEADS OF ACCOUNTS.	DIRECT CHARGES.			Cost of construction as now estimated.	
	Imperial.		Total.		
	Previous.	1916-17			
I.—WORKS,					
1.—HEAD WORKS—			Rs.	Rs.	
A.—Preliminary Expenses..	..	..	7,349	7,349	
B.—Land	..	..	11,920	11,920	
C.—Works	..	..	1,818	1,818	
D.—Buildings	..	..	1,80,461	1,87,470	
E.—Miscellaneous	..	..	38,021	38,021	
F.—Maintenance	..	..	14,972	14,972	
	TOTAL	..	2,69,614	1,012	
				2,00,636	
2.—MAIN CANAL AND BRANCHES—					
A.—Preliminary Expenses..	..	..	1,11,062	1,100	
B.—Land	..	..	9,21,565	9,21,295	
C.—Regulators..	..	..	33,18,102	—10,050	
D.—Valves and Weirs	..	..	1,62,235	3,817	
E.—River and Hill Torrent Works	..	..	1,11,03,978	2,89,865	
F.—Bridges	..	..	10,20,501	10,200	
G.—Escapes	..	..	2,59,807	370	
H.—Buildings	..	..	6,10,050	71,246	
I.—Earthwork	..	..	1,95,30,894	1,49,916	
M.—Plantations	..	..	51,736	87	
O.—Miscellaneous	..	..	59,478	1,692	
P.—Maintenance	..	..	3,07,842	4,217	
Q.—Losses on Stock	..	..	5,160	—929	
				4,637	
	TOTAL	..	3,03,97,518	4,65,687	
				3,10,63,435	
3.—DISTRIBUTANCES—					
A.—Preliminary Expenses..	..	..	28,010	14,622	
B.—Land	..	..	1,37,582	1,11,011	
C.—Works	..	..	2,77,052	2,03,692	
D.—Earthwork	..	..	2,68,073	2,81,010	
O.—Miscellaneous	..	..	53,058	2,79,130	
				3,31,165	
	TOTAL	..	7,01,685	9,20,701	
				16,82,436	

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Upper Jhelum Canal Project.

## No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated. Rs. 1	
	Imperial.				
	Previous	1916-17.	Total		
<b>4. DRAINAGE AND PROTECTIVE WORKS—</b>					
A.—Preliminary Expenses .. .. .. ..	0,958	..	0,958		
O.—Miscellaneous .. .. .. ..	127	..	127		
	<b>TOTAL</b>	<b>7,083</b>	<b>..</b>	<b>7,083</b>	
	<b>TOTAL I.—WORKS</b>	<b>8,16,23,062</b>	<b>13,93,663</b>	<b>8,30,19,625</b>	
				<b>3,53,54,865</b>	
<b>II.—ESTABLISHMENT.</b>					
5. DIRECTION AND ACCOUNT (a) .. .. .. ..	8,99,552	56,860	9,55,446		
6. EXECUTIVE .. .. .. ..	33,81,359	2,17,334	36,28,693		
7. MEDICAL .. .. .. ..	1,22,665	14,022	1,37,687		
	<b>TOTAL</b>	<b>44,03,626</b>	<b>3,18,322</b>	<b>47,21,948</b>	
				<b>40,02,371</b>	
<b>III.—TOOLS AND PLANT.</b>					
1. SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS .. ..	248	442	600		
2. PLANT AND MACHINERY .. .. .. ..	28,61,160	533	28,61,692		
3. TOOLS .. .. .. ..	—2,438	2,400	—38		
4. NAVIGATION PLANT .. .. .. ..	323	1,403	1,726		
5. CAMP EQUIPAGE .. .. .. ..	466	103	566		
7. OFFICE FURNITURE .. .. .. ..	3,568	—2,556	6,123		
8. REPAIRS AND CARRIAGE .. .. .. ..	1,46,639	5,076	1,50,615		
MISCELLANEOUS .. .. .. ..	14,70,175	1,00,926	15,70,401		
	<b>TOTAL</b>	<b>41,70,020</b>	<b>1,12,738</b>	<b>46,81,767</b>	
				<b>46,59,540</b>	
<b>IV.—SUSPENSE ACCOUNT.</b>					
14. STOCK .. .. .. ..	11,74,927	—1,16,97	10,57,948		
15. STOCK PURCHASES .. .. .. ..	—10,187	—12,024	—28,211		
16a. , SALES .. .. .. ..	631	—480	151		
16. MISCELLANEOUS ADVANCES .. .. .. ..	8,500	—3,100	5,310		
17. LONDON INVOICES .. .. .. ..	..	..	..		
18. LONDON STORES .. .. .. ..	..	..	..		
	<b>TOTAL</b>	<b>11,67,874</b>	<b>—1,32,673</b>	<b>10,35,201</b>	
				<b>0,00,000</b>	
	<b>GRAND TOTAL</b>	<b>4,16,70,401</b>	<b>16,02,060</b>	<b>4,33,68,541</b>	
				<b>4,52,20,706</b>	
<b>V—LESS RECEIPTS ON CAPITAL ACCOUNTS</b>	<b>..</b>	<b>05,195</b>	<b>2,61,762</b>	<b>3,56,957</b>	
				<b>11,45,484</b>	
	<b>NET TOTAL</b>	<b>4,15,81,206</b>	<b>14,30,288</b>	<b>4,30,11,554</b>	
				<b>4,40,05,282</b>	
<b>APPORTIONMENT.</b>					
40. IRRIGATION WORKS .. .. .. ..	4,15,14,345	14,30,288	4,20,44,636		
43. MINOR WORKS AND NAVIGATION, IMPERIAL .. ..	60,948	..	66,948		

(a) Excludes share of account commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Jhelum Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.			
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.	
	Rs.	Rs.	Rs.	(1. A)—EXTENSIONS AND IMPROVEMENTS.	Rs.	Rs.	Rs.	
Water rates	..	..	74,763	74,763	(2)—MAIN CANAL AND BRANCHES.	20,225	44,390	64,624
				TOTAL I. A. ..	20,225	44,390	64,624	
				(I. B)—MAINTENANCE AND REPAIRS.				
Sales of water	..	..	291	291	(1)—HEAD WORKS ..	10,860	14,851	25,611
				(2)—MAIN CANAL AND BRANCHES.	2,39,678	3,72,298	6,11,973	
				(3)—DISTRIBUTARIES ..	..	31,685	31,685	
Receipts from plantations	..	..	2	TOTAL I. B. ..	2,59,338	4,18,781	6,60,119	
				II.—ESTABLISHMENT.				
				(5)—DIRECTION AND ACCOUNTS.	6,446	2,313	60,759	
Rents of Buildings	..	3,120	5,256	8,376	(6)—EXECUTIVE ESTABLISHMENT.	41,254	70,320	1,20,574
				(7 A)—REVENUE ESTABLISHMENT.	6,634	61,267	67,891	
				TOTAL ..	59,334	1,49,890	2,09,244	
				(III)—TOOLS AND PLANT.				
Fines	..	..	238	238	(8)—Tools ..	—29	..	—29
				(7)—OFFICE FURNITURE	71	—1	70	
				(9)—REPAIRS AND CARRIAGE.	..	7	7	
Miscellaneous & other receipts.	3,114	3,054	6,108	MISCELLANEOUS ..	3,804	6,731	10,038	
				TOTAL ..	3,846	6,740	10,686	
				IV. REFUNDS OF REVENUE.				
				(10)—REFUNDS ..	36	5	35	
				TOTAL ..	3,83,975	6,19,815	9,53,688	
				Indirect Charges debitable to Revenue Account as per Account No. 5.	8,307	20,085	29,202	
Total	..	6,261	83,636	TOTAL CHARGES ..	3,42,180	6,40,890	9,82,980	
				Balance, Not Revenue ..	—5,35,910	—5,57,104	—8,93,080	
TOTAL RECEIPTS	..	6,264	83,636	GRAND TOTAL ..	6,264	83,636	60,900	

(a). Includes Rs. 1,867 on account of fees for collection of Revenue.

(b). Excludes share of accounts.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Upper Jhelum Canal Project.

## No. 4—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
Total Interest charges to end of 1915-16	Rs. 71,29,183	Not revenue realized during 1916-17	Rs. 5,57,104
Do. for the year 1916-17	Rs. 4,30,11,553	Balance net Interest charges	Rs. 90,80,607
Total outlay to 31st March 1917	7,16,144		
Less half outlay during 1916-17			
Mean capital at charges	4,22,96,140		
Interest at 3.29% per cent	13,94,260		
Total ..	85,23,443		85,23,443

## No. 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
<b>CAPITAL—</b>			
Capitalization of abatement of Land Revenue	1,68,326	13,976	1,82,300
Leave and Pension Allowances	6,11,408	44,565	6,56,063
Total ..	7,79,833	58,540	8,38,363
<b>REVENUE—</b>			
Capitalization of abatement of Land Revenue	..	..	..
Leave and Pension Allowances	6,307	20,985	29,292
Total ..	8,307	20,985	29,292
<b>GRAND TOTAL</b>	7,68,130	70,525	8,38,655

## No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.		
<b>DIRECT CHARGES—</b>					
Works ..	3,30,19,625	3,53,58,855	22,39,230	3,30,19,625	Changes in figures of sanctioned estimates for I—Works and III—Tools and Plant as compared with the sanctions shown in the last account are due to the transfer of Rs. 825,000 from the head I—Works of the Upper Chenab Canal to that of Upper Jhelum Canal, vide Government of India Public Works Department's letter No. 09711, dated 5th October 1916 and to the transfer of Rs. 14,000, and 61,000 from I—Works to III—Tools and Plant of Upper Jhelum Canal, vide Government Punjab Public Works Department, Irrigation Branch's Letters No. 1294 W.I., dated 15-3-17, 1516 W.I., dated 30-3-17, and 1598, dated 8-4-16.
Establishment ..	47,21,916	46,02,371	—1,19,577	47,21,915	
Tools and Plant ..	45,91,707	40,59,510	67,773	45,91,707	
Suspense Balances ..	10,35,201	6,00,000	—4,35,201	10,35,201	
Total ..	4,33,68,511	4,32,20,766	18,62,724	4,33,68,543	
<b>Less Receipts on Capital Account.</b>	3,66,737	11,56,484	7,95,027	3,56,967	
<b>Not Total ..</b>	4,30,11,784	4,40,66,282	10,33,095	4,30,11,584	
<b>INDIRECT CHARGES—</b>					
Capitalized abatement of Land Revenue.	1,82,300	1,10,946	—71,357	1,82,300	
Leave and Pension Allowances.	6,56,063	9,45,332	2,80,250	6,56,063	
Total ..	8,38,303	10,56,277	2,17,014	8,38,303	
<b>GRAND TOTAL ..</b>	4,38,49,947	4,51,21,639	12,71,012	4,38,49,947	

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project-Imperial.

No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES			Cost of construction as now estimated (Construction Estimate closed on 31st March 1904).	Expenditure against closed Estimates.		
	Imperial.						
	Previous.	1916-17.	Total.				
<b>I.—WORKS.</b>		Rs.	Rs.	Rs.	Rs.		
<b>2.—MAIN CANAL AND BRANCHES—</b>							
B.—Land .. .. ..	3,028	..	3,028				
D.—Regulator .. .. ..	13,187	..	13,187				
G.—Bridge .. .. ..	20,522	..	20,522				
L.—Earthwork .. .. ..	80,974	..	80,974				
	<b>Total</b>	1,26,711	..	1,26,711			
<b>3.—DISTRICTARIES—</b>							
B.—Land .. .. ..	8,210	..	8,210				
C.—Works .. .. ..	18,561	..	18,561				
L.—Earthwork .. .. ..	21,660	..	21,660				
	<b>Total</b>	48,340	..	48,340			
	<b>TOTAL I.—WORKS</b>	1,75,060	..	1,75,060	1,75,060		
<b>II.—ESTABLISHMENT.</b>							
D.—DIRECTION .. .. ..	7,518	..	7,518				
E.—EXECUTIVE .. .. ..	22,712	..	22,712				
	<b>Total</b>	30,250	..	30,250	30,250		
<b>III.—TOOLS AND PLANT.</b>							
F.—MISCELLANEOUS .. .. ..	686	..	686				
G.—REPAIRS AND CARRIAGE .. .. ..	28	..	28				
	<b>Total</b>	613	..	613	613		
	<b>GRAND TOTAL</b>	2,05,033	..	2,05,033	2,05,033		
<b>APPORTIONMENT.</b>							
I.—IRRIGATION WORKS .. .. ..	2,05,033	..	2,05,033	2,05,033	2,05,033		

Note.—Capital and Revenue accounts of these Canals will continue to be prepared separately until the Shahpur Branch of the Lower Jhelum Canal has been constructed and opened for Irrigation, vide Secretary to Govt., Punjab, P. W. D. Irrigation Branch letter No. 086 A. I., dated 7-6-05.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project-Imperial.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ..	21,90,534	80,315	22,70,849	(I. A.)—EXTENSIONS AND IMPROVEMENTS.			
				2.—MAIN CANAL AND BRANCHES	82,238	..	82,238
				3.—DISTRIBUTARIES	14,023	..	14,023
Sales of water ..	1,309	0	1,315	TOTAL I. A. ..	96,861	..	96,861
Receipts from Plantations ..	16,576	25	16,601	(I. B.)—MAINTENANCE AND REPAIRS.			
				2.—MAIN CANAL AND BRANCHES	6,13,780	15,601	6,29,380
Receipts from other Canal produce.	3,866	..	3,866	3.—DISTRICTARIES ..	1,22,287	3,338	1,25,625
Rent of Buildings ..	1,368	..	1,368	TOTAL I. B. ..	7,36,076	18,929	7,55,015
				(I. C.)—COMPENSATION ..	553	..	553
Fines ..	1,866	..	1,866	(II.)—ESTABLISHMENT.			
				5.—DIRECTION AND ACCOUNT	(b) 73,399	6,731	79,720
				6.—EXECUTIVE ESTABLISHMENT			
Miscellaneous and other Receipts.	1,710	..	1,710	7.—MEDICAL Do. ..	4,71,006	(a) 18,447	4,89,443
				7A.—REVENUE Do. ..			
				7B.—NAVIGATION Do. ..			
				TOTAL ..	5,45,395	21,768	5,70,163
				III.—TOOLS AND PLANT.			
				12.—MISCELLANEOUS ..	3,109	..	3,109
				13.—REPAIRS AND CARRIAGE ..	2,012	..	2,012
Total ..	22,23,298	80,340	23,03,591	TOTAL ..	5,121	..	5,121
				(IV.)—REFUNDS OF REVENUE	1,233	..	1,233
Share of Land Revenue collected in the Civil Department.	3,42,322	34,072	3,76,003	TOTAL ..	13,86,239	43,707	14,28,946
				Indirect Charges debitable to Revenue Account as per Account No. 5.	77,826	3,408	81,234
Total ..	3,42,322	34,072	3,76,003	TOTAL CHARGES ..	14,63,065	47,176	15,10,240
				Balance, Not Revenue ..	11,02,506	67,843	11,70,348
TOTAL RECEIPTS ..	25,65,670	1,16,018	26,80,688	GRAND TOTAL ..	25,65,670	1,15,018	26,80,688

(a). Includes Rs. 2,247 on accounts of fees for collection of revenue.

(b). Excludes share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project-Imperial.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.		Total.
		Rs.	Rs.	
<b>CAPITAL—</b>				
Capitalization of abatement of Land Revenue	.. ..	5,175	..	5,038
Leave and Pension Allowances	.. ..	1,313	..	4,343
<b>Total</b>	<b>.. ..</b>	<b>6,488</b>	<b>..</b>	<b>9,381</b>
<b>REVENUE—</b>				
Capitalization of abatement of Land Revenue	.. ..	941	..	944
Leave and Pension Allowances	.. ..	76,882	3,408	80,350
<b>Total</b>	<b>.. ..</b>	<b>77,823</b>	<b>3,408</b>	<b>81,294</b>
<b>GRAND TOTAL*</b>	<b>.. ..</b>	<b>87,307</b>	<b>3,168</b>	<b>91,275</b>

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.				REMARKS.
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions	Total.	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.	Total charges to date against old and current sanctions.	
<b>DIRECT CHARGES.</b>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Works	1,75,060	..	1,75,060	..	..	..	1,75,060	
Establishment	30,260	..	30,260	..	..	..	30,260	
Tools and Plants	613	..	613	..	..	..	613	
<b>Total</b>	<b>2,05,933</b>	<b>..</b>	<b>2,05,933</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>2,05,933</b>	
<i>Less: Receipts on Capital Account.</i>	..			..				
<b>Net Total</b>	<b>2,05,933</b>	<b>..</b>	<b>2,05,933</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>2,05,933</b>	
<b>INDIRECT CHARGES—</b>								
Capitalized abatement of Land Revenue.	5,038	..	5,038	..	..	..	5,038	
Leave and Pension Allowances.	4,343	..	4,343	..	..	..	4,343	
<b>Total</b>	<b>9,381</b>	<b>..</b>	<b>9,381</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>9,381</b>	
<b>GRAND TOTAL</b>	<b>2,15,014</b>	<b>..</b>	<b>2,15,014</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>2,15,014</b>	

## IRRIGATION BRANCH.

PUNJAB PROVINCE.

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Ghaggar Canal Project.

## No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.								
	Imperial.			Contribution.			Total.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total	Previous.	1916-17.	Total
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1.—WORKS.									
1. HEAD WORKS—									
A.—Land ..	432	..	432	288	..	288	720	..	720
C.—Works ..	53,817	..	53,817	39,878	..	39,878	99,695	..	99,695
K.—Buildings ..	2,180	..	2,180	1,454	..	1,454	3,614	..	3,614
TOTAL	62,435	..	62,435	41,621	..	41,621	1,01,050	..	1,01,050
2. MAIN CANAL AND BRANCHES									
A.—Preliminary Expenses	7,560	..	7,560	5,010	..	5,010	12,615	..	12,615
B.—Land ..	8,750	..	8,750	8,291	..	8,291	17,041	..	17,041
D.—Regulators ..	10,051	..	10,051	8,431	..	8,431	28,110	..	28,110
E.—Falls and Weirs ..	1,861	..	1,861	5,010	..	5,010	6,910	..	6,910
G.—Bridges ..	24,070	..	24,070	27,699	..	27,699	51,775	..	51,775
H.—Escapes ..	13,185	..	13,185	5,051	..	5,051	18,239	..	18,239
K.—Buildings ..	6,889	..	6,889	1,281	..	1,281	21,271	..	21,271
L.—Earthwork ..	77,201	..	77,201	1,10,109	..	1,10,109	1,97,314	..	1,97,314
O.—Miscellaneous ..	1,637	..	1,637	2,588	..	2,588	4,425	..	4,425
TOTAL	1,60,057	..	1,60,057	1,88,255	..	1,88,255	3,48,312	..	3,48,312
3. DISTRIBUTARIES—									
A.—Preliminary Expenses	403	..	403	..	..	..	403	..	403
B.—Land ..	3,033	..	3,033	..	..	..	3,033	..	3,033
C.—Works ..	17,095	..	17,095	..	..	..	17,095	..	17,095
L.—Earthwork ..	20,210	..	20,210	..	..	..	20,210	..	20,210
O.—Miscellaneous ..	14,783	..	14,783	8,745	..	8,745	23,525	..	23,525
TOTAL	66,624	..	66,624	8,745	..	8,745	76,060	..	76,060

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ghaggar Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17

HEADS OF ACCOUNT.	DIRECT CHARGES.										Cost of construction as now estimated. (Construction Estimate closed on 31st March 1901.)	Expenditure against closed Estimates.		
	Imperial.			Contribution.			Total.							
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Rs.				
4.—DRAINAGE AND PROTECTIVE WORKS														
L—Earthwork ... ...	5,801	...	5,801	...	...	...	5,801	...	5,801	...	...	...		
TOTAL ...	5,801	...	5,801	...	...	...	5,801	...	5,801	...	...	...		
TOTAL L.—WORKS ...	2,94,617	...	2,94,617	2,38,624	2,38,624	5,33,241	5,3							
II.—ESTABLISHMENT.														
5.—OFFICER AND ACCOUNT ... ...	12,614	...	12,614	(a) 8,453	8,453	8,163	22,067	...	21					
6.—EXECUTIVE ... ...	43,625	...	43,625	30,392	30,392	30,302	74,020	...	7					
7.—MEDICAL ... ...	5,555	...	5,555	...	...	5,055	5,055	...	1					
LEAVES AND PENSION ALLOWANCES ... ...	...	...	...	8,430	8,430	5,150	5,439	...	1					
TOTAL ...	62,707	...	62,707	41,284	41,284	41,294	1,07,081	...	1,0					
III.—TOOLS AND PLANT														
12.—MISCELLANEOUS ... ...	7,923	...	7,923	2,534	2,534	2,534	10,457	...	11					
TOTAL ...	7,923	...	7,923	2,534	2,534	2,534	10,457	...	11					
GRAND TOTAL ...	3,65,337	...	3,65,337	2,85,442	2,85,442	2,85,442	6,50,770	...	6,50,770					
V.—LESS RECEIPTS ON CAPITAL ACCOUNT.														
NET TOTAL ...	3,65,337	...	3,65,337	2,85,442	2,85,442	2,85,442	6,50,770	...	6,50,770	6,50,770	6,50,770			
APPORTIONMENT.														
43.—M. W. AND NAVIGATION, IMPERIAL	3,65,337	...	3,65,337	2,85,442	2,85,442	2,85,442	6,50,770	...	6,50,770	6,50,770	6,50,770	6,50,770		

(a). Share of Accounts excluded under Imperial from 1912-13.

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 OFFICE OF ACCOUNTANT-GENERAL.  
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Ghaggar Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS	IMPERIAL			CONTRIBUTION			TOTAL		
	Previous.	1916-17.	Total	Previous	1916-17.	Total	Previous.	1916-17.	Total
	Rs.	Rs	Rs	Rs.	Rs.	Rs.	Rs.	Rs.	Rs
Occupier's rates ..	1,17,405	21,847	1,39,342	..	..	..	1,17,405	21,847	1,39,342
Receipts from Plantations ..	2	..	2	2	..	2	0	..	4
Receipts from other Canal produce ..	..	..	..	1	..	1	1	..	1
Rent of Buildings ..	232	..	232	346	..	346	380	..	380
Fines ..	260	..	260	70	..	70	230	..	380
Miscellaneous and other Receipts ..	181	3	184	120	..	120	301	3	304
<b>Total</b> ..	<b>1,18,170</b>	<b>21,850</b>	<b>1,40,020</b>	<b>341</b>	<b>..</b>	<b>341</b>	<b>1,18,511</b>	<b>21,850</b>	<b>1,40,361</b>
<b>Total Receipts</b> ..	<b>1,18,170</b>	<b>21,850</b>	<b>1,40,020</b>	<b>341</b>	<b>..</b>	<b>341</b>	<b>1,18,511</b>	<b>21,850</b>	<b>1,40,361</b>

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ghaggar Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.				
	Previous		1916-17.	TOTAL	Previous		1916-17.	Total	Previous	1916-17.	Total
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(I A)—EXTENSIONS AND IMPROVEMENTS.											
1.—HEAD WORKS ..	9,685	321	10,006	6,115	214	5,621	15,103	533	15,638		
2.—MAIN CANAL AND BRANCHES ..	7,116	1,678	8,794	4,775	410	2,197	8,894	2,007	10,991		
3.—DISTRIBUTORIES ..	3,600	..	3,600	..	..	..	3,600	..	3,600		
4.—DRAINAGE AND PROTECTIVE WORKS.	801	..	801	..	..	..	801	..	801		
TOTAL I. A. ..	21,206	1,991	23,203	7,183	632	7,626	28,398	2,631	31,030		
(I. B)—MAINTENANCE AND REPAIRS.											
1.—HEAD WORKS ..	20,722	611	30,333	10,815	511	23,356	46,838	1,382	50,900		
2.—MAIN CANAL AND BRANCHES ..	93,180	5,214	103,694	50,100	1,303	61,402	1,62,592	6,616	1,65,167		
3.—DISTRIBUTORIES ..	26,022	813	27,730	180	..	180	27,003	613	27,005		
4.—DRAINAGE AND PROTECTIVE WORKS.	532	..	832	..	..	..	832	..	832		
TOTAL I. B. ..	1,75,065	6,826	1,82,891	80,090	1,814	61,024	2,30,055	6,690	2,44,734		
(I. C)—COMPENSATION ..	10,909	..	10,908	..	..	..	10,906	..	10,908		
(II)—ESTABLISHMENT.											
5.—DIRECTION AND ACCOUNT (6)	69,051	3,500	73,581	4,400	138	4,036	51,680	3,936	55,516		
(6)—EXECUTIVE ESTABLISHMENT	1,72,739	11,617	1,87,356	18,106	388	10,101	1,68,815	16,001	2,93,846		
(7)—MEDICAL Do. ..	6,302	..	6,302	..	..	..	6,302	..	6,302		
(7A)—REVENUE Do. ..	1,03,097	6,002	1,01,595	..	..	..	1,03,097	602	1,04,696		
(7D)—LEAVE AND PENSION ALLOWANCES.	..	..	..	2,682	73	2,965	2,682	73	2,953		
TOTAL ..	3,33,110	19,017	3,52,130	23,487	591	21,081	3,50,406	16,611	3,70,217		
(III)—TOOLS AND PLANT.											
12.—MISCELLANEOUS ..	—002	—31	—31	..	..	..	..	..	..		
13.—REPAIRS AND CARRIAGE ..	3,507	..	3,507	1,727	34	1,751	4,543	..	4,542		
TOTAL ..	2,615	—31	2,781	1,727	34	1,761	4,542	..	4,542		
IV.—REFUNDS OF REVENUE											
	2,432	..	2,432	20	..	20	2,462	..	2,462		
TOTAL ..	5,26,443	27,818	5,54,261	1,12,517	3,165	1,15,622	6,96,000	30,923	6,50,883		
Indirect Charges debitable to Revenue Account as per Account No. 6.	46,637	2,002	48,200	..	..	..	46,637	2,662	49,299		
TOTAL CHARGES ..	5,73,080	35,480	6,03,560	1,12,517	3,103	1,16,622	6,86,697	33,586	7,10,152		
BALANCE NET REVENUE ..	—4,56,610	—5,030	—4,02,510	—1,12,170	3,106	—1,16,281	—5,67,096	—11,733	—5,78,821		
GRAND TOTAL ..	1,18,170	21,056	1,40,020	341	..	341	1,38,511	21,850	1,40,361		

(a). Includes Rs. 602 as fees for collection of Revenue.

(b). Share of account excluded under Imparjol from 1912-13.

## IRRIGATION BRANCH.

## PUNJAB PROVINCE.

**OFFICE OF ACCOUNTANT-GENERAL.**

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

### Ghaggar Canal Project.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE

Particulars.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions.	Total.	Charges to date.	Amount sanctioned Estimate.	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
<b>DIRECT CHARGES—</b>								
Works ..	4,08,814	35,027	6,33,811	..	..	..	5,33,241	
Establishment ..	1,00,070	6,111	1,07,081	..	..	..	1,07,081	
Tools and Plant ..	10,048	400	10,457	..	..	..	10,457	
<b>Total</b> ..	<b>6,09,232</b>	<b>41,517</b>	<b>6,50,771</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>6,50,771</b>	
<i>Less Receipts on Capital Account.</i>								
Not Total ..	6,09,232		6,50,771	..	..	..	6,50,771	
<b>INDIRECT CHARGES—</b>								
Capitalized abatement of Land Revenue.	1,901	100	2,001	..	..	..	2,000	
Leave and Pension Allowances.	7,068	824	8,792	..	..	..	8,792	
<b>Total</b> ..	<b>8,969</b>	<b>924</b>	<b>10,793</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>10,793</b>	
<b>GRAND TOTAL</b> ..	<b>6,18,100</b>	<b>42,471</b>	<b>6,61,571</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>6,61,571</b>	

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Lower Sutlej Inundation Canals including Hajiwah Canal Project.

## No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS	IMPERIAL			CHARGES	IMPERIAL			
	Previous	1916-17.	Total		Previous	1916-17.	Total	
					Rs.	Rs.	Rs.	
Occupiers' rates ..	32,05,804	3,16,034	36,22,438	(I A)—EXTENSIONS AND IMPROVEMENTS.	Rs.	Rs.	Rs.	
Sales of water ..	2,458	178	2,636	2.—MAIN CANAL AND BRANCHES ..	8,20,281	42,321	8,71,602	
Receipts from Plantations ..	64,642	2,495	67,137	3.—DISTRIBUTARIES ..	1,38,827	3,601	1,42,428	
Receipts from other Canal produced.	33,808	186	33,994	4.—DRAINAGE AND PROTECTIVE WORKS ..	5,688	..	5,688	
Rent of Buildings ..	..	..	..	TOTAL I.A. ..	0,78,796	46,922	10,18,718	
Fines ..	54,303	1,721	56,024	(I.B)—MAINTENANCE AND REPAIRS.	..	..	..	
Miscellaneous and other Receipts.	..	..	..	2.—MAIN CANAL AND BRANCHES ..	27,11,758	75,680	27,87,441	
Total ..	34,61,016	3,21,214	37,82,220	3.—DISTRIBUTARIES ..	1,49,031	10,833	1,60,764	
Shore of Land Revenue collected in the Civil Department.	2,05,700	01,49,872	94,55,57	4.—DRAINAGE WORKS ..	3,540	..	3,540	
TOTAL RECEIPTS ..	1,77,81,136	6,26,914	1,84,08,050	TOTAL I.B. ..	28,05,926	80,510	29,51,745	
				I.C.—COMPENSATION ..	4,004	100	4,104	
				(II)—ESTABLISHMENT ..	..	..	..	
				5.—DIRECTION AND ACCOUNT ..	4,89,476	(b) 11,070	4,92,165	
				6.—EXECUTIVE ESTABLISHMENT ..	16,00,510	40,000	16,60,479	
				7.—MEDICAL da. ..	24,709	1,383	26,092	
				7A.—REVENUE da. ..	4,28,579	30,200	4,58,630 <sup>(a)</sup>	
				TOTAL ..	24,40,274	93,291	25,33,065	
				III.—TOOLS AND PLANT	..	..	..	
				1.—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS ..	..	76	76	
				2.—PLANTS AND MACHINERY ..	..	..	..	
				3.—TOOLS ..	108	60	177	
				4.—NAVIGATION PLANT ..	..	..	..	
				5.—CAMP EQUIPMENT ..	32	..	32	
				6.—LIVE STOCK ..	..	..	..	
				7.—OFFICE FURNITURE ..	33	211	244	
				8.—REPAIRS AND CARRIAGE ..	17,287	1,284	18,571	
				MISCELLANEOUS ..	27,432	—183	27,249	
				TOTAL ..	44,802	1,456	46,348	
				IV.—REFUNDS OF REVENUE ..	3,318	186	3,504	
Contribution ..	12,45,839	..	12,45,839	V.—PROFIT AND LOSS ..	345	..	345	
Chhar Labour ..	39,24,410	..	39,24,410	SURPLUS ACCOUNT.	..	..	..	
				Miscellaneous Advances ..	88	—39	—1	
				Stock ..	22,761	—683	22,178	
				Stock Purchases ..	1	..	1	
				Stock Sales ..	..	..	..	
				TOTAL ..	22,800	—922	22,178	
					63,54,748	2,26,862	65,81,600	
				Chhar Labour ..	39,24,410	..	39,24,410	
				TOTAL ..	1,02,79,158	2,26,852	1,05,06,010	
				Indirect Charges debitable to Revenue Account as per Account No. 5.	3,74,739	13,061	3,87,800	
				TOTAL CHARGES ..	1,06,63,897	2,30,911	1,08,94,810	
				Balance, Net Revenue ..	71,27,238	3,87,901	75,14,240	
				GRAND TOTAL ..	1,77,81,136	6,26,014	1,84,08,050	

(a) Includes Rs. 9,080 on account of fees for collection of Revenue.

(b) Excludes accounts commencing from 1912-13.

IRRIGATION BRANCH.

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OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Sutlej Inundation Canals including Hajiwah Canal Project.

No 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916 17

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
REVENUE—			
Capitalization abatement of Land Revenue ...	5	...	5
Leave and Pension Allowances ...	3,74,734	13,061	3,87,795
Total	3,74,739	13,061	3,87,800

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OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Sutlej Inundation Canals including Hajiwah Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES	IMPERIAL.			
	Previous	1916-17.	Total		Previous.	1916-17.	Total.	
					Rs.	Rs.	Rs.	
Occupiers' rates	4,05,624	22,424	6,16,018	(I A.)—EXTENSIONS AND IMPROVEMENTS. (2)—MAIN CANAL & BRANCHES.. (3)—DISTRIBUTORIES ..	35,750	—2,325	33,425	
Sales of water	11	..	11	TOTAL I. A. ..	17	..	15	
Receipts from Plantations	157	..	157	(I. B.)—MAINTENANCE AND REPAIRS. (2)—MAIN CANAL & BRANCHES (3)—DISTRIBUTORIES ..	2,01,781	6,052	2,07,833	
Receipts from other Canal produc.	36	..	36	TOTAL I. B. ..	12	..	12	
Miscellaneous and other Recv.pts.	90	..	90	(I.C.)—COMPENSATION.	2,61,703	6,052	2,67,845	
Total	4,25,617	22,424	5,18,341	II. ESTABLISHMENT. (5)—DIRECTION AND ACCOUNT.. (6)—EXECUTIVE ESTABLISHMENT (7A.)—REVENUE Do. ..	30,008	..	30,008	
Share of Land Revenue collected in the Civil Department.	4,74,637	30,231	5,04,868	(7B.)—TOOLS AND PLANT, (8.)—NAVIGATION PLANT .. (12)—MISCELLANEOUS .. (13)—REPAIRS AND CARRIAGE...	76,210	1,691	77,810	
Interest on sale proceeds of unutilised lands benefited.	6,74,647	30,231	5,04,918	TOTAL ..	35,161	(a) 2,437	37,505	
					1,41,388	4,026	1,45,416	
				(III)—TOOLS AND PLANT, (9.)—NAVIGATION PLANT .. (12)—MISCELLANEOUS .. (13)—REPAIRS AND CARRIAGE...	2,674	43	2,717	
				TOTAL ..	2,674	43	2,717	
				(IV.)—REFUNDS OF REVENUE	620	..	620	
				(V.)—PROFIT AND LOSS	..			
				TOTAL ..	4,42,240	7,708	1,50,035	
				Indirect Charges debitable to Revenue Accounts as per Account No. 5.	19,704	561	20,358	
				TOTAL CHARGES ..	4,62,031	8,302	4,70,336	
				Balance, Net Revenue ..	5,08,570	44,293	5,52,863	
TOTAL RECEIPTS ...	9,70,604	52,655	10,23,259	GRAND TOTAL ...	9,70,604	52,655	10,23,259	

(a) Includes Rs.—650 on account of fees paid for collection of Revenue.

(b) Excludes accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNT FOR THE YEAR 1916-17.

Lower Sutlej Inundation Canals Hajiwah Canal Project.

No. 5. ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
Revenue—			
Leave and Pension Allowances	19,794	564	20,358
Total	19,794	564	20,358

## IRRIGATION BRANCH.

## PUNJAB PROVINCE

## OFFICE OF ACCOUNTANT-GENERAL.

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Chenab Inundation Canals Project.

## No. 3.—REVENUE ACCOUNTS FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total		Previous.	1916-17.	Total
Occupiers' rates	Rs. 26,40,202	1,93,725	28,33,927	I. A.—EXTENSIONS AND IMPROVEMENTS.	Rs.	Rs.	Rs.
Sales of water	3,505	110	3,625	2.—MAIN CANAL AND BRANCHES	6,88,000	14,112	6,93,012
Receipts from Plantations	62,701	1,002	64,603	3.—DISTRIBUTARIES	.. 1,40,000	8,249	1,50,249
Receipts from other Canal produce.	42,316	20	42,336	4.—DRAINAGE AND PROTECTIVE WORKS.	25,191	315	25,446
Rent of Buildings	1,330	235	1,635	TOTAL I. A. ..	10,55,000	23,700	10,78,700
Fines	39,748	639	40,387	(II. B.)—MAINTENANCE AND REPAIRS.			
Miscellaneous and other Receipts.	2,925	403	3,328	2.—MAIN CANAL AND BRANCHES	31,67,170	67,011	32,34,781
				3.—DISTRIBUTARIES	.. 1,25,231	8,296	1,33,526
				4.—DRAINAGE WORKS	.. 91,749	2,187	93,936
				TOTAL I. B. ..	3,81,200	78,003	34,62,203
Total	2,52,726	1,97,217	30,20,015	I. C.—COMPENSATION ..	.. 1,032	..	1,032
Contribution	11,47,500	..	11,47,500	II.—ESTABLISHMENT.			
Other Labour	21,68,111	..	21,68,111	3.—DIRECTION AND ACCOUNT ..	5,11,513	(b) 10,455	5,20,260
				6.—EXECUTIVE ESTABLISHMENT ..			
				7.—MEDICAL do. ..	16,41,512	(a) 30,416	10,77,658
				8.—Revenue do. ..			
				TOTAL ..	21,60,025	40,002	21,60,022
				III.—TOOLS AND PLANT.			
				12.—MISCELLANEOUS ..			
				13.—REPAIRS AND CARRIAGE ..	.. 31,011	497	31,511
				TOTAL ..	31,011	497	31,511
				IV.—REFUNDS OF REVENUE ..	0,356	215	0,601
				V.—PROFIT AND LOSS ..	.. 425	..	425
				TOTAL ..	66,34,952	1,40,443	67,84,395
				CIVIL LABOUR ..	.. 21,09,111	..	24,09,114
				TOTAL ..	66,43,066	1,40,443	67,84,399
Share of Land Revenue collected in the Civil Department.	96,30,316	2,16,705	98,57,113	Indirect Charges Debitable to Revenue Account as per Account No. 6 ..	3,61,254	6,586	9,67,820
				TOTAL CHARGES ..	63,94,320	1,56,009	65,50,329
TOTAL RECEIPTS	1,60,08,734	4,44,012	1,64,52,776	Balance, Not Revenue ..	60,14,414	2,88,033	60,05,417
				GRAND TOTAL ..	1,60,08,734	4,44,012	1,64,52,776

(a) Includes Rs. 5,405 on account of fees for collection of Revenue.

(b) Excludes accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Chenab Inundation Canals Project.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total. Rs.
	Rs.	Rs.	
Revenue—			
Capitalization of abatement of Land Revenue	... 8,536	... 8,536	
Leave and Pension Allowances ...	... 3,42,718	6,566	3,49,284
Total	... 3,51,254	6,566	3,57,820

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Muzaffargarh Inundation Canals Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.			
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.	
					Rs.	Rs.	Rs.	
Occupiers' rates..	31,46,582	3,22,665	34,69,237	(A.)—EXTENSIONS AND IMPROVEMENTS.	7,15,601	11,015	7,30,416	
				2.—MAIN CANAL AND BRANCHES.	9,526	24,548	1,24,073	
				3.—Drainage &c.	..	..	..	
Sale of water ..	1,632	220	1,852	4.—Drainage and Prolongation Works.	20,336	..	20,336	
				TOTAL 1. A. ..	8,461	30,461	8,74,827	
				(B.)—MAINTENANCE AND REPAIRS.	..	..	..	
Receipts from Plantations ..	1,16,675	12,117	1,28,792	2.—Machinery and Branches.	28,55,726	1,31,033	20,87,350	
				3.—DISTRIBUTORIES	2,00,203	44,027	3,13,320	
				4.—Drainage Works	38,576	816	39,693	
				TOTAL 1. B. ..	31,03,807	1,76,476	33,40,372	
Receipts from other Canal products.	7,574	281	7,855	(C.)—COMPENSATION, ESTABLISHMENT.	7,632	..	7,632	
				5.—Direction and Ad. Court.	6,12,572	(b) 21,107	6,33,070	
				6.—Executive Establish.	11,05,853	63,310	11,69,202	
Fines ..	20,783	277	21,060	(7A.)—Revision Do. ..	6,0,501	(a) 50,051	7,00,572	
				TOTAL ..	26,98,316	1,21,107	28,09,433	
				III.—TOOLS AND PLANT.	..	..	..	
Miscellaneous and other Receipts	7,710	3,760	9,480	1.—SCIENTIFIC INSTRUMENTS	119	219	337	
				2.—PLANT AND MACHINERY	..	..	..	
				3.—TOOLS	978	516	1,406	
				4.—NAVIGATION	..	..	..	
				5.—CAMP EQUIPMENT	..	11	71	
				6.—LIVE STOCK	..	..	83	
				7.—OFFICE FURNITURE	..	220	..	
				8.—TRAMS AND CARRIAGE	10,881	1,253	11,137	
				12.—MISCELLANEOUS	37,010	374	38,072	
Total ..	33,00,656	3,37,324	36,38,013	TOTAL TOOLS AND PLANT. ..	58,224	1,925	60,143	
				IV.—REFUNDS OF REVENUE.	1,131	..	1,130	
Contribution ..	8,01,270	..	8,01,270	V.—PROFIT AND LOSS.	4	..	4	
Chhor Labour ..	24,31,233	..	24,31,233	SUSPENSE ACCOUNT.	..	..	..	
				Miscellaneous advances ..	71	100	201	
				Stock ..	46,208	124	46,422	
				Stock sales ..	..	..	..	
				Stock purchases ..	..	—1,813	—1,840	
				London stores ..	..	..	..	
				TOTAL ..	40,342	—1,490	41,843	
Total ..	65,30,107	3,37,426	68,73,633	Chhor Labour ..	..	..	21,31,233	
				TOTAL ..	92,38,177	3,31,620	95,72,697	
Share of Land Revenue collected in the Civil Department.	1,00,22,700	4,10,610	1,10,33,310	Indirect Charges debitable to Revenue Accounts as per Account No. 5.	3,05,052	10,055	4,12,007	
				TOTAL CHARGES ..	00,34,120	3,51,475	00,88,601	
				Balance, Not Revenue ..	75,21,837	4,02,472	70,27,309	
TOTAL RECEIPTS ..	1,71,58,006	7,63,047	1,70,12,913	GRAND TOTAL ..	1,71,58,066	7,63,047	1,70,12,913	

(a.) Includes Rs. 0,461 on account of fees for collection of Revenue.

(b.) Excludes share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Muzaffargarhi Inundation Canals Project.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
<b>REVENUE—</b>			
Capitalization statement of Land Revenue .. .. .. ..	18,355	..	18,355
Leave and Pension Allowances .. .. .. ..	3,77,597	16,955	3,94,552
<b>Total</b> .. .. .. ..	<b>3,95,952</b>	<b>16,955</b>	<b>4,12,907</b>

## OFFICE OF ACCOUNTANT-GENERAL

## ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

## Shahpur Canal Project—Provincial.

## No. 3—REVENUE ACCOUNTS FOR AND TO END OF 1916-17.

RECEIPTS.	PROVINCIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	(I.A.)—EXTENSIONS AND IMPROVEMENTS.	Rs.	Rs.	Rs.
Occupiers' rates	2,48,477	31,592	8,50,369	2—MAIN CANAL AND BRANCHES	33,583	..	33,583
				3—DISTRIBUTARIES	11,487	..	11,487
				TOTAL I.A.	45,070		45,070
				(I.B.)—MAINTENANCE AND REPAIRS.			
Sales of water	7,423	600	8,023	2.—MAIN CANAL AND BRANCHES	2,38,807	23,476	2,62,283
				3.—DISTRIBUTARIES	67,351	2,602	70,013
				TOTAL I.B.	3,06,158	26,168	3,32,326
Receipts from Plantations	5,103	..	5,103	(I.C.)—COMPENSATION	..	02	62
				II.—ESTABLISHMENT	..		
Receipts from other Canal produce.	400	..	400	5.—DIRECTION AND ACCOUNTS	51,311	5,370	56,711
Water power	920	..	920	6.—EXECUTIVE ESTABLISHMENT			
Fines	713	..	713	7.—MATERIAL 7.A.—REVENUE	3,21,303	13,439	3,37,801
				Do.	..		
				TOTAL	3,75,761	18,809	3,94,612
Miscellaneous and other Receipts.	3,603	..	3,603	III.—TOOLS AND PLANT	..		
				12.—MISCELLANEOUS	1,437	..	1,437
				13.—REPAIRS AND CARRIAGE	1,693	..	1,003
				TOTAL	3,130		3,130
Total	16,66,830	32,492	8,00,322	IV.—PROFIT AND LOSS	..	016	
				TOTAL	7,30,740	44,970	7,75,716
Share of Land Revenue collected in the Civil Department.	1,75,204	12,073	1,88,177	Indirect Charges debitable to Revenue Account as per Account No. 5.			
				TOTAL CHARGES	7,85,030	47,600	8,32,630
				Balance, Not Revenue	2,67,004	—2,144	2,54,860
TOTAL RECEIPTS	10,42,034	45,406	10,87,440	GRAND TOTAL	10,42,034	45,405	1087,409

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project.—Provincial.

No 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916 17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
<b>REVENUE—</b>			
Capitalization of abatement of Land Revenue	1,693	...	1,693
Leave and Pension Allowances	52,597	2,633	55,230
<b>Total</b>	<b>54,290</b>	<b>2,633</b>	<b>56,923</b>

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ravi Inundation Canals Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL			CHARGES.	IMPERIAL		
	Previous	1916-17.	Total.		Previous	1916-17.	Total.
Occupiers' rates	1,05,273	...	1,05,273	I A.—EXTENSIONS AND IMPROVEMENTS. 2.—MAIN CANAL AND BRANCHES 5.—	500	...	500
				TOTAL I. A.	500	...	500
				LB.—MAINTENANCE AND REPAIRS.			
Sale of water	297	..	297	1.—MAIN CANAL AND BRANCHES 2.—DISTRIBUTORIES TOTAL I. B.	89,597	..	89,597
					9,522	..	9,522
					99,119	..	99,119
Fines	30	..	30	II. C.—COMPENSATION III.—ESTABLISHMENT. 1.—DIRECTION AND ACCOUNT (a) 1.—EXECUTIVE ESTABLISHMENT 6.—	34	..	34
				7.—MEDICAL do. 7A.—REFRESH. do.	19,013	2,100	22,052
Miscellaneous and other receipts.	6	..	8	TOTAL ..	1,34,996	2,106	1,37,102
				III. TOOLS AND PLANT.			
				12.—MISCELLANEOUS	1,722	..	1,722
TOTAL	1,05,614	..	1,05,614	13.—RENTALS AND CARRIAGE	915	..	915
				TOTAL ..	2,637	..	2,637
				IV.—REFUNDS OF REVENUE	1,000	..	1,000
Share of Land Revenue collected in the Civil Department.	1,30,303	3,222	1,33,525	TOTAL ..	2,38,292	2,100	2,40,401
				Indirect Charge debitable to Revenue Account per Account No. 5.	18,800	205	18,804
				TOTAL CHARGES ..	2,07,191	2,401	2,09,606
				Balance, Net Revenue ..	—25,214	816	—24,396
TOTAL RECEIPTS	2,31,077	3,222	2,35,100	GRAND TOTAL ..	2,31,077	3,222	2,35,100

(a). Share of Account excluded from 1912-13.

IRRIGATION BRANCH. PUNJAB PROVINCE.  
OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ravi Inundation Canals Project.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17	Total
	Rs.	Rs.	
REVENUE—			
Leave and Pension Allowances	18,899	295	19,194
Total	18,899	295	19,194

